SUBJECT INDEX

A

Abitibi, Quebec, 54(4): 1061
Acid neutralizing capacity (ANC)
  solutions, organic acids, 54(5): 1247
Acid mine water
  Fe, oxyhydroxysulfate, 54(10): 2743
Actinide elements
  chondrites, ordinary, 54(10): 2847
Activity coefficient
  Na-Ca-Cl-SO_4-H_2O system, 200°C , 1 kbar, 54(12): 3265
  O, salt solutions, 54(12): 3315
Activity diagram
  calcite-dolomite-anhydrite, 54(5): 1290, 1292
  Fe, oxides, sulfides, 54(5): 1288
  zeolites, 54(5): 1293
Aden, Gulf of
  ^{3}He, methane, 54(1): 111
Adsorption
  Al, on goethite, 54(5): 1301
  amines, on clay minerals, 54(10): 2759
  As, on Fe, oxyhydroxide, 54(1): 103
  cations, hectorite, clay mineral, 54(6): 1655
  Cu on chitin, seawater, 54(3): 761
  Fe, particulates, lakes, 54(10): 2635
  Hg^{2+}, sulfide minerals, 54(7): 1957
  Mg, marine sediment, 54(12): 3295
  Pb^{2+}, γ-Al_2O_3, 54(7): 1897
  Pd, sulfide surfaces, 54(1): 117
  REEs, from seawater, 54(10): 2645
  Se, on Fe and Mn oxyhydroxides, 54(3): 739
  selenite, on calcite, 54(8): 2223
  sulfate, soil, isotope fractionation, S and O, 54(10): 2817
Africa
  Cameroon, soil, 54(3): 781
Agate
  origin, model, 54(6): 1627
Alaska
  Rua Cove Mine, S, isotope composition, 54(7): 2075
Alberta
  Cold Lake, bitumen deposit, 54(1): 165
Albite
  diffusion, O, 54(11): 2953
  leached layer, dissolution, 54(5): 1267
  Raman spectroscopy, glass, 54(4): 1037
Algae
  uptake, REEs, seawater, 54(6): 1587
Allan Hills, Antarctica
  ALHA 81024, C-rich aggregates, 54(3): 833
Allende, carbonaceous chondrite
  dark inclusions, 54(3): 819
  Fremdlinge, chemical composition, 54(12): 3491
  interstellar carbon components, 54(2): 455
  isotope compositions, Zn, Pd, Ag, Cd, Sn, and Te, 54(12): 3525
Alpha particles
  recoil-emanation theory, minerals, 54(2): 425
Aluminum
  complexation, Al^{3+}, goethite, 54(5): 1301
  complexation, Pb^{2+}, γ-Al_2O_3, 54(7): 1897
  komatiites, South Africa, 54(11): 3095
  solubility, Al hydroxide, 54(10): 2883, 2887
^{26}Al
  ureilites, 54(6): 1775
Americium
  interstitial water, Irish Sea, 54(1): 23
Amines, aliphatic
  sediment, marine, lacustrine, 54(10): 2759
Amino acid
  equilibrium, in hydrothermal fluids, 54(4): 1185
  fugacity diagram, 54(4): 1187
  Murchison, carbonaceous chondrite, 54(11): 3159
  sedimentary cycling, 54(11): 3033
Amphibole
  He, isotope composition, 54(11): 3115
Analcime, see also Zeolites
  H, isotope composition, 54(5): 1372
  O, isotope composition, 54(5): 1372
  O, isotope fractionation, 54(5): 1359
Angra dos Reis, achondrite
  geochemistry, origin, 54(11): 3209
Angrites, achondrites
  geochemistry, origin, 54(11): 3209
Anhydrite
  S, isotope composition, 54(2): 323
  Sr, isotope composition, 54(2): 323
Anorthite
  Ar, solubility, 54(2): 299
Anorthosite
  origin, Archean, 54(6): 1639
Antarctica
  eucrites, labile trace elements, 54(11): 3187
  I, meteorites, overabundance, 54(9): 2503
  methyl iodide, atmosphere, 54(9): 2503
  Victoria Land, ^{36}Cl, 54(2): 311
  weathering, meteorites, 54(9): 2503
  Yamato meteorites, 54(12): 3509
Antimony
  sulfide complexes, 54(11): 3239, 3241, 3245, 3246
Apatite
  crystallinity, diagenesis, sedimentary, 54(9): 2433
  dissolution, surface reactions, 54(7): 1969
  substitution, carbonate, francolite, 54(8)9: 2323
Apollo 14, 54(3): 851
Apollo 15, 54(9): 2565
Apollo 16, 54(6): 1851
Apollo 17, 54(6): 1817
Aragonite
  kinetics, precipitation, seawater, 54(3): 797
Argentina
  Las Chacras batholith, 54(3): 663
Argon
  Bholghati, howardite, 54(8): 2185
  chondrites, shocked, 54(12): 3514
  degassing, Earth, 54(1): 139
  diffusion, orthoclase, after neutron irradiation, 54(11): 3147
  excess, ^{40}Ar/^{39}Ar spectra, K-feldspar, 54(6): 1699
  excess, Porgera gold deposit, Papua New Guinea, 54(5): 1397
  Kapoeta, howardite, 54(8): 2186
  Knyahinya, chondrite, 54(9): 2514
  ordinary chondrites, 54(10): 2870
  solubility, silicate minerals, basalt, 54(2): 299
Arizona, USA
  Geronimo volcanic field, 54(12): 3401
  San Carlos, olivine, 54(2): 477
Arsenic
  lacustrine sediment, adsorption, Fe oxyhydroxides, 54(1): 103
  speciation, sulfide-bearing fluids, 54(4): 1009
  sulfide complexes, 54(11): 3239, 3241, 3245, 3246
Assimilation
  basalt, native Fe, Disko Island, Greenland, 54(1): 57
Asteroids
  asteroidal component, carbonaceous chondrite, 54(9): 2485
Atlantic Ocean
  FAMOUS, MORB, partition coefficients, 54(12): 3379
Atmosphere
  methyl iodide, Antarctica, 54(9): 2503
Auger electron spectroscopy (AES)
  Hg^{2+}, adsorption, sulfide surfaces, 54(7): 1957
  Pd, adsorption, sulfide surfaces, 54(1): 117
Australia
  Brockman Iron Formation, Hamersley Range, 54(12): 3461
  Georgetown region, Queensland, 54(1): 183
  O, phosphate, kangaroo bones, 54(9): 2603
  Tasmania, Poimena granite, 54(8): 2305, 2313

B

Bacteria
  oxidation, Fe(II), 54(10): 2743
Basalt (lunar)
  fractional crystallization, 54(6): 1817
  komatiitic, origin, Apollo 16, 54(6): 1851
  petrogenesis, picrite, 54(3): 851
  REEs, 54(6): 1822, 1853
  trace elements, 54(3): 851; 54(6): 1822, 1853
Basalt (terrestrial)
  Ar, solubility, 54(2): 299
  diffusion, O, FeO-rich melt, 54(11): 2947
  native Fe, Disko Island, Greenland, 54(1): 57
  partition coefficients, sulfide-silicate, noble and chalcophile elements, 54(12): 3379
  petrogenesis, open-system, computer model, 54(1): 87
  ultramafic nodules, isotope composition, 54(12): 3449

Bauxite
O, isotope composition, gibbsite, 54(5): 1483, 1485
Bay of Bengal, 54(5): 1387
Bediasite, tektite
source material, 54(2): 469
^{7}Be
sediment, coastal, seasonal variation, 54(1): 237
^{10}Be
ureilites, 54(6): 1775
Bholghati, howardite
consortium, 54(8): 2155–2206
dating, eucrite clast, 54(8): 2195
petrography, mineral chemistry, 54(8): 2161
REEs, 54(8): 2169
trace elements, 54(8): 2169
Biomarker
sterane, 54(9): 2451
Bishopville (aubrite)
petrogenesis, REEs, 54(12): 3553
Bitumen
CO_2 production, low-temperature recovery, 54(1): 165
Black Sea
organic S compounds, sediment, 54(11): 3053
Black smoker, see Smoker
Bone
O, isotope composition, phosphate, 54(6): 1723
Boron
abundance, distribution, granite, 54(1): 49
hydrothermal fluid, mid-ocean ridge, 54(8): 2236
Boron, isotope composition
fractionation, phase separation, hydrothermal fluid, 54(8): 2337
hydrothermal system, Yellowstone National Park, 54(10): 2811
vent fluid, mid-ocean ridge, 54(8): 2239
Brahmaputra River, India
U-series nuclides, 54(5): 1387
Brine
activity coefficients, 54(12): 3315
activity coefficients, 200°C, 1 kbar, 54(12): 3265
chemical composition, Searles Lake, California, 54(7): 2066
chemical compositions, subsurface, 54(1): 17, 208; 54(2): 321
^{36}Cl age, Magadi-Natron Basin, East Africa, 54(10): 2817
inclusions, halite, Searles Lake, California, 54(7): 2059
Na-K-Ca-Mg-Cl-SO_4-H_2 system, 54(3): 575
origin, fluid inclusion study, 54(2): 319
origin, subsurface, seawater freezing, 54(1): 13
pH measurement, 54(5): 1519
solubility, O_2, 54(12): 3315
Sr isotope composition, Canadian Shield, 54(1): 205
British Columbia, Canada
Ash Mountain, 54(10): 2679
Princess Louisa Inlet, 54(2): 403
Saanich Inlet, 54(23): 403
Tuya Butte, 54(10): 2679
Bromine
hydrothermal fluid, mid-ocean ridge, 54(8): 2235
Brunei
fossil resin, 54(11): 3021

C

Cadmium
isotope composition, Allende, 54(12): 3525
CAIs (Ca, Al-rich inclusions)
Murchison, 54(11): 3219
Calcite
activity diagram, dolomite, anhydrite, 54(5): 1290
adsorption, selenite, 54(8): 2223
concretion, growth, 54(12): 3391
fluid inclusions, calcite cement, Spain, 54(3): 699
fractures, Sr isotope composition, Canadian Shield, 54(1): 210
isotope composition, O and C, Keno Hill, Yukon Territory, Canada, 54(4): 1053
kinetics of growth, inhibition by Mn^{2+}, 54(11): 2991
kinetics of precipitation, pH and phosphate, 54(3): 797
Calcium
Ca-Na-Cl-SO_4-H_2O system 54(12): 3265
$CaCl_2$ brine, origin, 54(1): 13
$CaCl_2$-NaCl-H_2O system, 54(3): 611
$CaCO_3$ dissolution, deep-sea sediment, 54(11): 3013
clinopyroxene-olivine, geothermobarometer, 54(9): 2375
Calcium, isotope composition
inclusions, Murchison, 54(11): 3228
California, USA
Borderland, sediment diagenesis, 54(5): 1233
Searles Lake, brine inclusions, 54(7): 2059
Cameroon, West Africa
Ce anomalies, laterite, 54(3): 781
Canada
Alberta, 54(1): 165
British Columbia, 54(2): 403; 54(10): 2679
Devon Island, Arctic, 54(12): 3435
Manitoba, 54(3): 559; 54(7): 2093
Ontario, 54(1): 205; 54(4): 933; 54(10): 2817
Quebec, 54(4): 1061; 54(9): 2403
Saskatchewan, 54(10): 2799
Yukon Territory, 54(4): 1045
Canyon Diablo, iron meteorite
compositional range, 54(11): 3175
Cape Lookout, Bight, North Carolina
amino acid cycling, 54(11): 3033
^{7}Be, seasonal variation, 54(1): 237
Carbon
burial, organic C, marine sediment, 54(2): 373
global cycle, 54(10): 2887,2889,2891
Carbon, isotope composition
Allende, 54(2): 459–461
calcite, Keno Hill, Yukon Territory, Canada, 54(4): 1053
calcite, oilfields, North Sea, 54(3): 705
carbon, K-T boundary sediment, Sumbar, Turkmenia, 54(4): 1137
carbonate rocks, Archean, 54(10): 2722
CO_2, bitumen deposit, Alberta, 54(1): 167
CO_2, brine, Searles Lake, California, 54(7): 2071
CO_2 and C in basalt glass, 54(7): 2051
coral, deep-sea, 54(5): 1498
diamonds, 54(9): 2587
dolomite, Oklahoma, Cambrian, 54(7): 1981
graphite, quartz veins, 54(3): 683
iron formation, Hamersley Range, Australia, 54(12): 3465
organic compounds, Pigmy Basin, Gulf of Mexico, 54(4): 1121
shale, Cretaceous, 54(10): 2799
siderite, Keno Hill, Yukon Territory, Canada, 54(4): 1051
xenolith, basalt, Hualalai, Hawaii, 54(1): 217
^{14}C
groundwater, Ontario, 54(4): 999
organic matter, Pigmy Basin, 54(4): 1124
retention, Quaternary sediment, 54(8): 2277
terrestrial ages, meteorites, Libya, 54(10): 2895
Carbon dioxide
bitumen, low-temperature recovery, 54(1): 165
clathrate hydrates, CO_2-CH_4-H_2O, CO_2-N_2-H_2O, 54(3): 631
degassing, Kilauea, Hawaii, 54(7): 2051
fluid inclusion, superdense, migmatite, 54(3): 895
oceans, uptake, 54(10): 2889, 2891, 2893
phase diagram, CO_2, 54(3): 897
phase diagrams, CO_2-CH_4, CO_2-N_2, 54(3): 621
retention, Quaternary sediment, 54(8): 2277
Carbonaceous chondrites
Allende, C-components, 54(2): 455
Allende, dark inclusion, 54(3): 819
Allende, Fremdlinge, chemical composition, 54(12): 3491
Allende, isotopic commposition, Zn, Pd, Ag, Cd, Sn, and Te, 54(12): 3525
inclusions, refractory, trace elements, 54(6): 1755
Kaba, aqueous alteration, 54(7): 2113
Leoville, 54(3): 819; 54(7): 2121
Mokoia, aqueous alteration, 54(6): 1745
nebular and asteroidal features, 54(9): 2485
Orgueil, kerogen, 54(5): 1453
Murchison, aliphatic hydrocarbons, 54(10): 2859
Murchison, amino acids, 54(11): 3159
Murchison, hibonite-bearing inclusions, 54(11): 3219
Vigarano, 54(3): 819; 54(7): 2121
Yamato 74130, relation to, 54(5): 1475
Carbonate rocks
chemical composition, Arachean, 54(10): 2719
chemical composition, Cambrian, Oklahoma, 54(7): 1981
geochemistry, Archean, 54(10): 2717
O and C, isotope composition, iron formation, 54(12): 3461
O and C, isotope composition, Oklahoma, 54(7): 1981
Cariaco Trench, Venezuela, 54(5): 1325
Cassiterite
Cornwall, England, 54(3): 673
Cementation
sandstone, theory, 54(6): 1609

Cerium
Eh-pH diagram, 54(3): 793
lateritic soil, profiles, 54(3): 781
Cerium, isotope composition
iron formation, carbonate, Isua, Greenland, 54(4): 1150
Cesium
^{137}Cs, lacustrine sediment, 54(5): 1443
Charnockite
He, isotope composition, 54(11): 3115
Chert
O, isotope composition, 54(4): 1175, 1181; 54(12): 3468
Chitin
adsorption, Cu, seawater, 54(3): 761
Chlorine
Fe^{2+} complexes, 54(8): 2207
geochemistry, hydrothermal fluids, mid-ocean ridges, 54(8): 2235
^{36}Cl
brine, Magadi-Natron Basin, East Africa, 54(10): 2827
saline lakes, southern Victoria Land, Antarctica, 54(2): 311
Chondrites
actinide elements, ordinary chondrites, 54(10): 2847
C-rich aggregates, type 3 chondrites, 54(3): 831
cosmogenic nuclide, production, model, 54(9): 2521
noble gases, ordinary chondrites, 54(10): 2869
ordinary, kamacite, olivine, 54(5): 1217
ordinary, Libya, terrestrial ages, 54(10): 2895
Raman spectra, olivine, shocked, 54(9): 2507
shock melting, 54(12): 3509
Xe, isotope composition, ordinary chondrites, 54(10): 2849
Chondrules
chemical composition, Semarkona, 54(6): 1794
crystallization, barred olivine, 54(12): 3537
formation, pyroxene-olivine, olivine, 54(12): 3475
olivine, pyroxene, carbonaceous chondrites, 54(9): 2485
Semarkona, petrology, 54(6): 1785
Chromatography
gas, fluid inclusions, 54(3): 559
Clathrate compounds
fluid inclusions, 54(3): 631
O, isotope fractionation, bound water-bulk water, 54(5): 1364
Clay minerals
hectorite, cation adsorption, 54(6): 1655
Climate change
brine inclusions, halite, Searles Lake, California, 54(7): 2059
H, isotope composition, cellulose, 54(6): 1843, 1845
O, isotope composition, cellulose, 54(6): 1843, 1845
O, isotope composition, deer bones, 54(6): 1723
O, isotope composition, kangaroo bones, 54(9): 2603
Clinopyroxene
Ca, peridotite, geothermobarometer, 54(9): 2375
isotope composition, Pb, Nd, Sr, 54(12): 3449
Cobalt
kamacite, ordinary chondrites, 54(5): 1219
peat, Minnesota, 54(11): 2933
Colorado, USA
Front Range, migmatite, 54(3): 895
Complexation
Al^{3+}, surface, geothite, 54(5): 1301
Au, organic ligands, 54(6): 1575
ferrous chloride, 54(8): 2207
metals, sight occupation distribution function (SODF), 54(6): 1535
metals, supercritical water, 54(6): 1555
Concordia diagram, U-Pb
granite, Georgetown, Australia, 54(1): 189
shock metamorphism, effect of, 54(12): 3432, 3439
Concretion
growth rate, 54(12): 3391
Copper
adsorption, chitin, seawater, 54(3): 761
peat, Minnesota, 54(11): 2933
Corals
diagenesis, C, 54(9): 2439
^{210}Pb, growth rate, 54(5): 1493
trace elements, Galapagos, 54(2): 387
Cosmic rays
exposure history, CM meteorites, 54(7): 2133
Cosmogenic radionuclides
^{26}Al, Knyahinya, chondrite, 54(9): 2511
^{26}Al, ureilites, 54(6): 1775
^{7}Be, seasonal variation, coastal sediment, 54(1): 237
^{10}Be, Knyahinya, chondrites, 54(9): 2511
^{10}Be, ureilites, 54(6): 1775
^{36}Cl, brine, Magadi-Natron Basin, East Africa, 54(10): 2827
^{36}Cl, Jaline lakes, Antarctica, 54(2): 311
^{53}Mn, Knyahinya, chondrite, 54(9): 2511
Ne, 54(6): 1777; 54(7): 2133; 54(9): 2514; 54(12): 3515
production, in chondrites, model of, 54(9): 2521
Cretaceous-Tertiary boundary
fires, 54(4): 1133
Ir, boundary clays, 54(3): 892; 54(4): 1142
isotope composition, C, 54(4): 1133
Crust
chemical composition, estimates, 54(12): 3421
continental, evolution, Lu-Hf dating, detrital zircon, 54(6): 1683
evolution, geochemistry, turbidites, 54(7): 2015
formation, felsic magmatism, 54(1): 183
Crystallization
chondrules, 54(12): 3475, 3525
Cutin acids
CuO-reaction, products of, 54(11): 3065, 3073
diagenesis, 54(11): 3083
Cycloalkanes, petroleum, 54(1): 23
Cyprus
Troodos, ophiolite, 54(3): 653

D

Darwin Glass
geochemistry, 54(5): 1463
Dendroclimatology
O, H, isotope compositions, cellulose, 54(6): 1843, 1845
Denmark
Kysing Fjord, S deposition, 54(10): 2731
North Sea, oilfields, 54(3): 705
Deuterium, see Hydrogen, isotopic-composition
Diagenesis
amino acid cycling, coastal sediment, 54(11): 3033
apatite, 54(9): 2433
carbon, in corals, 54(9): 2439
cutin acids, conifer needles, coastal sediment, 54(11): 3083
dolomite, Oklahoma, 54(7): 1979
iron formation, isotope composition, 54(12): 3461
isotopic and chemical changes, carbonates, 54(11): 3123; 54(12): 3461
kerogen-rich sediment, 54(5): 1283
mangrove leaves, tropical estuary, 54(7): 1991
marine sediment, release of nutrients, 54(11): 3001
organic S compounds, 54(11): 3053
peat, mobility, Pb and ^{210}Pb, 54(12): 3329
shale, effect on isotope composition, C and S, 54(10): 2799
transition metals, porewater, 54(5): 1233
triterpenoids, fossil plants, 54(11): 3253
uraninite, formation, lignite, 54(3): 809
Diamond
C, isotope composition, 54(9): 2587
He, isotope composition, 54(9): 2587
Diffusion
Ar, K-feldspar, 54(6): 1699
Ar, orthoclase, neutron-irradiated, 54(11): 3147
cations, diopside melt, 54(12): 3353
chemical, diopside melt, 54(10): 2709
corona, olivine, open-system, 54(9): 2389
hydrocarbons, through kerogen, 54(10): 2775, 2781, 2793
H_2, granulite, fluid inclusions, 54(3): 641
O, alkali feldspar, 54(11): 2953
O, Fe-rich basalt melt, 54(11): 2947
Dimmitt (C3)
C-rich aggregates, 54(3): 833
Diopside
Ar, solubility, 54(2): 299
Raman spectroscopy, glass, 54(4): 1037
Disequilibrium, isotopic
Dislocation density
effect on dissolution kinetics, quartz, 54(2): 267
selective dissolution, 54(12): 3347
Dissolution
albite, hydrothermal conditions, 54(5): 1267
apatite, acid media, 54(7): 1969
calcium carbonate, deep-sea sediment, 54(11): 3013
dislocations, 54(2): 267; 54(12): 3347
hydrated layer, glasses and minerals, 54(7): 1941
plagioclase, 54(8): 2247
quartz, 54(2): 267; 54(4): 955
silica, based on kinetic isotope effect, 54(12): 3369
Distribution coefficient, see Partition coefficient

Dolomite
diagenesis, Burlington-Keokuk Formation, isotopic and chemical changes, 54(11): 3123
diagenetic history, Lower Arbuckle Group, Oklahoma, 54(7): 1979
O, isotope composition, Lower Arbuckle Group, Oklahoma, 54(7): 1979
Sr, isotope composition, Lower Arbuckle Group, Oklahoma, 54(7): 1979

E

Eagle Station (pallacite)
olivine, chemical composition, 54(6): 1807
Earth
degassing, noble gases, 54(1): 139; 54(2): 299
East Pacific Rise
Fe and Mn oxides, 54(6): 1709
geochemistry, black smokers, 54(7): 1911, 1913, 1919
Eh-pH diagram
Ce + Fe, 54(3): 793
El Niño
organic geochemistry, sediment, coastal shelf, Peru, 54(6): 1671
Electrolyte solution
complexation, supercritical water, 54(6): 1555
pH measurement, 54(5): 1519
soil solution, acidity, 54(9): 2363
England
Cornwall, W-Sn deposits, 54(3): 673
Environmental geochemistry
O, phosphate, deer bones, 54(6): 1723
O, phosphate, kangaroo bones, 54(9): 2603
Pb, sediment, North Atlantic, 54(1): 37
Pu, Am, interstitial water, Irish Sea, 54(1): 23
pyritization, degree of, 54(9): 2621
Equation of state
water, high P and T, 54(9): 2611
Equilibrium model
solubility, solid solutions, 54(2): 267
Estuary
diagenesis, mangrove leaves, 54(7): 1991
REEs, 54(4): 971
Eucrites
age, clasts, Bholghati, 54(8): 2195
parent body, redox conditions, 54(6): 1803
trace elements, Antarctic and non-Antarctic, 54(11): 3185

F

Fallout
^{137}Cs, Arctic lakes, 54(5): 1443
Fecal pellets
N, isotope composition, 54(1): 155
Feldspar
$^{40}Ar/^{39}Ar$ dating, excess Ar, 54(6): 1699
diffusion, O, albite, 54(11): 2953
Florida, USA
Everglades, peat, 54(9): 2463
Fluid inclusion
Ag-Pb-Zn deposits, Keno Hill, Yukon Territory, Canada, 54(4): 1045
clathrate hydrates, 54(3): 631
CO_2, superdense, migmatite, 54(3): 895
CO_2-CH_4, CO_2-N_2, phase diagrams, 54(3): 621
forsterite, planar arrays, 54(4): 1191
gas chromatography, 54(3): 559
gas compositions, 54(3): 553, 559
halite, Michigan Basin, 54(2): 319
halite, Searles Lake, California, 54(7): 2059
hydrocarbons, 54(3): 509, 705
ice liquidus, NaCl-$CaCl_2$-H_2O system, 54(3): 603
infrared microspectrometry, 54(3): 509
internal pressure, 54(3): 559
laser, Raman microprobe, calibration, 54(3): 535
limestone, calcite cement, 54(3): 699
melting behavior, 54(3): 591
methane, presence, origin, 54(3): 641
microthermometry, 54(3): 559, 611
quadropole mass spectrometry, 54(3): 553
quartz, Bushveld Complex, South Africa, 54(3): 611
quartz veins, South Dakota, Montana, 54(3): 683
Raman spectroscopy, 54(3): 519, 559, 611
Rodeo de los Molles, REEs, Th deposit, Argentina, 54(3): 663
SIMS, analysis, fluids, 54(3): 545
state of the art, 54(3): 495
tin deposits, Cornwall, 54(3): 673
Troodos, ophiolite, brine filled, 54(3): 653
W deposits, Cornwall, England, 54(3): 673
Zr, Y, REE deposit, Strange Lake, Quebec, 54(9): 2403
Foraminifera
proteins, organic matrix, 54(8): 2285
Forsterite
Ar, solubility, 54(2): 299
fluid inclusions, planar arrays, 54(4): 1191
O, isotope fractionation, diopside-calcite
Fossil
foraminifera, proteins, 54(8): 2285
Fourier Series
infrared microspectrometry, 54(3): 509
Raman microspectroscopy, 54(3): 519
Fractionation, isotopic, B
phase separation, hydrothermal fluid, 54(8): 2337
Fractionation, isotopic, C
xenoliths, Hualalai, Hawaii, 54(1): 217
Fractionation, isotopic, H
gibbsite-water, 54(5): 1483, 1485
Fractionation, isotopic, O
analcime-water, 54(5): 1359
gibbsite-water, 54(5): 1483, 1485
goethite-hematite, 54(1): 229
sorption of sulfate, soil, 54(10): 2817
water of hydration-bulk water, 54(5): 1364
Fractionation, isotopic, S
diagenesis, shale, 54(10): 2799
sorption of sulfate, soil, 54(10): 2817
France
lignite, uraninite formation, 54(3): 809
Pyrenees, lherzolite, 54(10): 2835
water, isotopic composition, 54(2): 413
Francolite (apatite)
substitution, carbonate, 54(8): 2323
Fremdlinge
Allende, trace elements, 54(12): 3491
Fugacity diagram
amino acids, 54(4): 1187
Fumaroles, see also Hot springs
CO_2, isotope composition, C, Kilauea, 54(7): 2053
^{3}He, Italy, 54(4): 1105

G

Galapagos Islands
corals, trace elements, 54(2): 387
Gallium
lherzolites, 54(2): 471, 475
Ganga River, India
U-series nuclides, 54(5): 1387
Garnet
fractionation, partial melting, mantle, 54(11): 3095
Gel
formation, hematite, 54(4): 1083
Geobarometer
Ca, clinopyroxene-olivine, 54(9): 2375
Gechronology
$^{40}Ar/^{39}Ar$ method, Ar diffusion, orthoclase, 54(11): 3147
$^{40}Ar/^{39}Ar$ method, eucrite clast, Bholghati, 54(8): 2195
$^{40}Ar/^{39}Ar$ method, K-feldspar, excess Ar, 54(6): 1699
$^{40}Ar/^{39}Ar$ method, mesosiderites, 54(9): 2549
$^{40}Ar/^{39}Ar$ method, Porgera gold deposit, Papua New Guinea, 54(5): 1397
^{14}C method, terrestrial ages, meteorites, Libya, 54(10): 2895
exposure history, meteorites, cosmic rays, 54(7): 2133; 54(9): 2511
granite, Georgetown area, Queensland, Australia, 54(1): 183
iron formation, Isua, Greenland, 54(5): 1147
K-Ar method, Porgera gold deposit, Papua New Guinea, 54(5): 1397
K-Ar method, shocked chondrites, 54(12): 3516
Lu-Hf method, zircon, detrital, Archean, 54(6): 1683
Pb-Pb method, ilmenite, 54(9): 2599
Porgera gold deposit, Papua New Guinea, 54(5): 1397
Rb-Sr method, eucrite clasts, Bholghati, 54(8): 2195
Rb-Sr method, melt rock, Lake St. Martin, Manitoba, 54(7): 2107
Rb-Sr method, shocked chondrites, 54(12): 3510
Rb-Sr method, shocked rocks, Haughton impact, 54(12): 3435
Sm-Nd method, Archean shale, 54(6): 1687
Sm-Nd method, eucrite clasts, Bholghati, 54(8): 2195
Sm-Nd method, metasomatism, 54(5): 1337
Sr, ferromanganese deposit, Pacific Ocean, 54(6): 1709
Sr, marine phosphate, 54(5): 1343
U-Pb method, ilmenite, 54(9): 2594
U-Pb method, zircon, titanite, monazite, shocked, 54(12): 3427, 3435
U-Th-Pb method, effect, amphibolite to granulite transition, 54(6): 1835, 1839

Geothermal fluids, see Hydrothermal fluid
Geothermometer
  Ca, clinopyroxene-olivine, peridotite, 54(9): 2375
Germany
  Bavaria, Hauzenberg granite, B, 54(1): 49
  Hessian Depression, peridotite xenoliths, 54(1): 71
Gibbsite
  fractionation, isotopes, O and H, 54(5): 1483, 1485
Glass (lunar)
  REEs, 54(3): 852
  trace elements, 54(3): 852; 54(6): 1851; 54(9): 2565
Glass (terrestrial)
  alteration to palagonite, 54(10): 2679
  Darwin glass, geochemistry, 54(5): 1463
  dissolution, hydrated layer, 54(7): 1941
  ion exchange, Na and K, hydrothermal conditions, 54(11): 2923
  Raman spectroscopy, 54(4): 1037
Glauconite
  Nd, isotope composition, Tethys Sea, 54(11): 3139
Goethite
  Al^{3+}, complexation, surface, 54(5): 1301
  O, isotope fractionation, 54(1): 229
  trace elements, 54(2): 229
  unit cell dimension, 54(2): 363
Gold
  complexation, organic ligands, 54(6): 1575
  distribution coefficient, sulfide-silicate melt, 54(8): 2341
  fluid inclusion, quartz vein, Archean, 54(3): 545
  Porgera gold deposit, Papua New Guinea, 54(5): 1397
  solubility, speciation, natural water, 54(1): 3
Granite
  B, abundance, distribution, 54(1): 49
  origin, alkali granites, Tasmania, 54(8): 2320
  petrogenesis, Georgetown, Queensland, Australia, 54(1): 183
  REEs, pegmatite formation, monazite, 54(7): 2141
  REEs, Poimena, Tasmania, 54(8): 2320
  Strange Lake pluton, Quebec, 54(9): 2403
  trace elements, alkali granite, Tasmania, 54(8): 2307, 2316
Granulite
  fluid inclusions, methane, origin, 54(3): 641
  U-Th-Pb systematics, Lewisian complex, 54(6): 1835
  xenoliths, Geronimo volcanic field, Arizona, 54(12): 3401
Greenland
  Disko Island, native Fe, 54(1): 57
  Isua, iron formation, 54(4): 1147
Groundwater
  geochemistry, age, origin, mafic pluton, Ontario, 54(4): 993
  H, O, isotope composition, Ontario, 54(4): 999
  noble gases, Ontario, 54(4): 1002
  Sr, isotope composition, Canadian Shield, 54(1): 205
Gulf of Mexico
  Pigmy Basin, 54(4): 1117

H

Hafnium
  zircon, 54(6): 1600, 1683
Hafnium, isotope composition
  komatiite, Barberton greenstone belt, 54(11): 3095
  zircon, detrital, Archean, 54(6): 1683
Halite
  fluid inclusions, Michigan, 54(2): 319
Harzburgite, see also Peridotite
  metasomatic alteration, xenoliths, Germany, 54(1): 71
Hawaii
  Checker Reef, 54(9): 2439
  Hualalai volcano, C isotope composition, 54(1): 217
  Hualalai volcano, olivine, 54(2): 477
Hectorite (clay mineral)
  cation adsorption, 54(6): 1655
Helium
  degassing, Earth, 54(1): 139
  fumaroles, Italy, 54(4): 1109
  geothermal water, Yellowstone National Park, 54(11): 3103
  groundwater, Ontario, 54(4): 1002
  Knyahinya, chondrite, 54(9): 2514
  sediment, Pacific Ocean, 54(1): 173
  volcanic rocks, Woodlark Basin, Solomon Islands, 54(2): 441
Helium, isotope composition
  diamonds, 54(9): 2587
  fumaroles, Italy, 54(9): 1105
  geothermal fluids, Yellowstone National Park, 54(11): 3103
  groundwater, Ontario, 54(4): 1002
  Precambrian rocks, 54(11): 3115
  Red Sea, 54(1): 111
Hematite
  O, isotope fractionation, 54(1): 229
  formation, from ferric gel, 54(4): 1083
Hibonite
  inclusions, Murchison, 54(11): 3219
Hot springs
  As, Taupo, New Zealand, 54(4): 1009
Howardites
  Bholghati, 54(8): 2155–2206
Humic acid
  molecular weight, determination, 54(1): 131
Hydrocarbons
  algal and bacterial, 54(5): 1325
  diffusion, through kerogen, 54(10): 2775, 2781, 2793
  fluid inclusions, 54(3): 509
  Murchison, carbonaceous chondrite, 54(10): 2859
  origin, light hydrocarbons, 54(5): 1315
Hydrogen
  effect on O diffusion, alkali feldspar, 54(11): 2953
Hydrogen, isotopic composition
  bauxite, 54(5): 1483, 1485
  brine, Searles Lake, California, 54(7): 2066
  brine, subsurface, Canada, 54(1): 19
  cellulose, 54(6): 1843, 1845
  groundwater, Ontario, 54(4): 999
  kerogen, Orgueil, 54(5): 1453
  leaf water, 54(2): 418
  serpentinization, ophiolite, Taiwan, 54(5): 1417
  water, Yellowstone National Park, 54(11): 3109
  zeolites, 54(5): 1369
Hydrogen, isotopic fractionation
  dissolution, silica, 54(12): 3369
Hydrogen sulfide
  clathrate hydrates, H_2S-CH_4-H_2O, 54(3): 631
Hydrothermal alteration
  kaolinite to illite/muscovite, 54(11): 2979
  rhyolitic glass, ion exchange, 54(11): 2923
  Strange Lake pluton, Quebec, 54(9): 2403
Hydrothermal fluid
  amino acids, equilibration, 54(4): 1185
  Cl^-, mid-ocean ridges, 54(8): 2235
  He, isotope composition, Yellowstone National Park, 54(11): 3103
  ion exchange, Na and K, rhyolitic glass, 54(11): 2923
  trace elements, mid-ocean ridges, 54(8): 2236
Hydrothermal system
  B, isotope composition, Yellowstone National Park, 54(10): 2811
  geochemistry, East Pacific Rise, 54(7): 1911

I

Ice
  liquidus, NaCl-$CaCl_2$-H_2O system, 54(3): 603
Illite
  kinetics, transformation from kaolinite, 54(11): 2979
Ilmenite
  chemical composition, 54(9): 2594, 2596
  Pb, concentration, isotope composition, 54(9): 2599
  Sr, concentration, isotope composition, 54(9): 2599
  U-Pb dating, 54(9): 2593
Impact, meteorite
  Darwin Glass, 54(5): 1463
  Haughton impact structure, Devon Island, Canada, 54(12): 3435
  Lake St. Martin, Manitoba, 54(7): 2093
  Roter Kamm, Namibia, 54(11): 3247, 3249
  shock metamorphism, effect on U-Pb systematics, 54(12): 3427
Inclusions
  Leoville, 54(3): 319; 54(7): 2121
  Murchison, hibonite-bearing, 54(11): 3219
  Vigarano, 54(3): 819; 54(3): 2121
India
  Bay of Bengal, 54(5): 1387
  Brahmaputra River, 54(5): 1387
  diamonds, C, He, isotope composition, 54(9): 2587
  Ganga River, 54(5): 1387
Infrared spectroscopy
  apatite, crystallinity, 54(9): 2433
Iodine
  overabundance, Antarctic meteorites, 54(9): 2503
Ion exchange
  marine sediment, 54(12): 3295
  Na,K, rhyolitic glass, 54(11): 2923
Iridium
  analytical method, 54(3): 889

distribution coefficient, sulfide-silicate melt, 54(8): 2341
Irish Sea
distribution, Pu and Am, 54(1): 23
Iron
activity diagram, oxides and sulfides, 54(5): 1288
adsorption, As on oxyhydroxide, 54(1): 103
adsorption, Se on oxyhydroxide, 54(3): 739
chloride complexes, 25 to 200°C, 54(8): 2207
ferromanganese crust, dating, Sr, 54(6): 1709
hematite, formation from ferric gel, 54(4): 1083
iron formation, Dales Gorge Member, Brockman Formation, Hamersley Range, Australia, 54(12): 3461
iron formation, Isua, Greenland, 54(4): 1147
iron formation, Precambrian, REEs, 54(11): 2965
native, Hanekammen Complex, Disko Island, Greenland, 54(1): 57
oxyhydroxysulfate, acid mine water, 54(10): 2743
peat, Minnesota, 54(11): 2933
pyritization, marine sediment, 54(9): 2621
reduction, nitrate by Fe^{2+}, kinetics, 54(3): 903
surface charge, $FeCO_3$, 54(8): 2329
transport, distribution, fresh water and sediment, 54(10): 2635
Iron meteorites
Ag, 54(6): 1731
Os, 54(3): 875
Pd, 54(6): 1731
Isochron
Bholghati, Rb-Sr, 54(8): 2199
chondrites, shocked, Rb-Sr, 54(12): 3516
ilmenite, Pb-Pb, 54(9): 2597, 2598
shocked rocks, Rb-Sr, Haughton impact, Devon Island, Canada, 54(12): 3443
Italy
Campi Flegrei caldera, 54(4): 1105

J

Japan
plant fossils, 54(11): 3253

K

K-feldspar
$^{40}Ar/^{39}Ar$ dating, excess Ar, 54(6): 1699
Kaba (CV3)
aqueous alteration, 54(7): 2113
Kaersutite
isotope composition, Pb, Nd, Sr, 54(12): 3449
Kamacite
chondrites, ordinary, 54(5): 1217
Kaolinite
transformation kinetics, illite/muscovite, 54(11): 2979
Kenya
Lake Magadi, ^{36}Cl, 54(10): 2827
Kerogen
catalysis, test of, 54(5): 1315
diagenesis, geopressured sediment, 54(5): 1283
diffusion, hydrocarbons, 54(10): 2775, 2781, 2793
H, isotope composition, Orgueil, 54(5): 1453
O, isotope composition, Orgueil, 54(5): 1453
pyrolysis, kinetics, sterane release, 54(9): 2451
Kilauea, Hawaii
degassing, CO_2, 54(7): 2051
Kimberlite
Jagersfontein, South Africa, 54(2): 329
Kinetics
calcite growth, inhibition by Mn^{2+}, 54(11): 2991
concretion, calcite, growth of, 54(12): 3391
dissolution, calcite, deep-sea sediment, 54(11): 3013
dissolution, quartz, basic solutions, 54(11): 2911
dissolution, quartz, dislocation density, 54(2): 267
dissolution, quartz, hydrothermal mixed-flow reactor, 54(4): 955
dissolution, silica, 54(12): 3369
kaolinite to illite/muscovite, 54(11): 2979
oxidation, pyrite, 54(2): 395
phase transitions, silica, 54(6): 1563
precipitation, calcite and aragonite, seawater, 54(3): 797
reduction, nitrate by Fe^{2+}-silicates, 54(3): 903
sterane release, pyrolysis, kerogen, 54(9): 2451
Komatiites
Hf isotope composition, South Africa, 54(11): 3095
Krypton
ordinary chondrites, 54(10): 2870

L

Lakes, Arctic
chronology, ^{210}Pb, ^{137}Cs, 54(5): 1443
Lakes, freshwater
Fe, removal rate, 54(10): 2635
Lakes, saline
^{36}Cl, Magadi-Natron Basin, East Africa, 54(10): 2827
^{36}Cl, southern Victoria Land, Antarctica, 54(2): 311
Lancé (CO3)
matrix mineralogy, 54(4): 1155
La-Ce method of dating
iron formation, Isua, Greenland, 54(4): 1147
Laser
O, isotope analysis, silicates and carbonates, 54(5): 1353
Raman, microprobe, 54(3): 535
S, isotope analysis, sulfide minerals, 54(3): 883; 54(7): 2075
Leaching
U, Th, monazite, 54(7): 1867, 1879, 1889
Lead
anthropogenic, flux, North Atlantic, 54(1): 37
complexation, Pb^{2+}, γ-Al_2O_3, 54(7): 1897
ilmenite, 54(9): 2597
mobility, peat, 54(12): 3329
Lead, isotope composition
granulite, xenoliths, Arizona, 54(12): 3414
ilmenite, 54(9): 2597
sediment, North Atlantic, 54(1): 37
ultramafic nodules, basalt, 54(12): 3449
^{210}Pb
coral, deep-sea, 54(5): 1493
mobility, peat, 54(12): 3329
sediment, lacustrine, 54(5): 1443
sediment, Peru, coastal shelf, 54(6): 1673
Leoville (CV3)
dark inclusions, 54(3): 819
refractory inclusions, 54(7): 2121
Lherzolite, see also Peridotite
Ga, concentration, 54(2): 471, 475
metasomatic alteration, xenoliths, Germany, 54(1): 71
S, isotope composition, 54(10): 2835
S content, 54(5): 1487
Libya
Hammadah al Hamra, meteorites, 54(10): 2895
Lignin
conversion to phenols, diagenesis, 54(7): 1991
Lignite
uraninite formation, 54(3): 809
Limestone
fluid inclusions, calcite cement, 54(3): 699
Lutetium
zircon, 54(6): 1686
Lu-Hf method of dating
zircon, detrital, Archean, 54(6): 1603

M

Magadi, Lake, Kenya
^{36}Cl age, brine, 54(10): 2827
Magma
contamination, sediment, Disko Island, Greenland, 54(1): 57
Magnesium
adsorption, marine sediment, 54(12): 3295
chloride complexes, stability, 54(12): 3283
Raman spectra, Mg acetate, 54(4): 947
Magnesium, isotope composition
inclusions, Murchison, 54(11): 3227
Magnetite
chemical composition, 54(9): 2594
O, isotope composition, iron formation, 54(12): 3468
Pb, concentration, isotope composition, 54(9): 2597
U, 54(9): 2597
Manganese
adsorption, Se, 54(3): 739
carbonate rocks, Archean, 54(10): 2726
inhibition, calcite growth, 54(11): 2991
peat, Minnesota, 54(11): 2933
surface charge, $MnCO_3$, 54(8): 2329
Manganese nodules, marine
dating, Sr isotope composition, 54(6): 1709
REEs, 54(6): 1709
Manitoba, Canada
Lake St. Martin, impact structure, 54(7): 2093
Tanco granitic pegmatite, 54(3): 559
MANOP
site C and S, dissolution, calcium carbonate, 54(11): 3013
Mantle
degassing, noble gases, 54(1): 139

fractionation, partial melting, garnet, 54(11): 3095
He, isotope composition, 54(11): 3115
S, isotope composition, 54(10): 2835
S content, 54(5): 1487
ultramafic nodules, basalt, isotope composition, 54(12): 3449
unusual component, Luzon arc, 54(9): 2473
Mascelynite
REE, ALHA 77005, 54(9): 2539
Melt, impact
Darwin glass, geochemistry, 54(5): 1463
geochemistry, Lake St. Martin, Manitoba, 54(7): 2093
Rb-Sr dating, melt rock, Lake St. Martin, Manitoba, 54(7): 2107
REEs, melt rock, Lake St. Martin, 54(7): 2103
trace elements, melt rock, Lake St. Martin, 54(7): 2103
Melt, silicate
diffusion, chemical, diopside, 54(10): 2709
diffusion, O, Fe-rich basalt, 54(11): 2947
electrochemistry, cations, diopside melt, 54(12): 3353
two-lattice model, 54(8): 2293, 2297
Mercury
Hg^{2+}, adsorption, sulfide minerals, 54(7): 1957
Mesosiderites
$^{40}Ar/^{39}Ar$ dating, 54(9): 2549
Metamorphism, shock
U-Pb systematics, 54(12): 3427, 3435
melting, chondrites, Antarctica, 54(12): 3509
Metasomatism
peridotite, xenoliths, Hessian Depression, Germany, 54(1): 71
peridotite, xenoliths, kimberlite, South Africa, 54(2): 329
Sm-Nd method of dating, effect of, 54(5): 1337
Meteorite impact craters, see Impact, meteorite
Meteorites
Ag, isotope composition, 54(6): 1729
ALHA 77005, REEs, 54(9): 2535
Allende, 54(2): 455; 54(3): 819; 54(12): 3525
Allende, dark inclusions, 54(3): 819
Angra dos Reis, origin, 54(11): 3209
aubrites, petrogenesis, 54(12): 3553
Bholghati, howardite, consortium, 54(8): 2155–2206
Bishopville, REEs, 54(12): 3553
Canyon Diablo, composition, 54(11): 3175
Dimmitt, C-rich aggregates, 54(3): 833
Eagle Station, olivine, 54(6): 1807
eucrites, parent body, redox conditions, 54(6): 1803
I, overabundance, Antarctica, 54(9): 2503
Kapoeta, noble gases, 54(8): 2183
Knyahinya, cosmogenic nuclides, tracks, 54(0): 2511
Lancé, matrix mineralogy, 54(4): 1155
Leoville, dark inclusions, 54(3): 819; 54(7): 2121
mesosiderites, compositional range, origin, 54(11): 3197
mesosiderites, parent body disruption, 54(9): 2549
mesosiderites, petrogenesis, 54(4): 1165
Mokoia, aqueous alteration, 54(6): 1745
Murchison, hibonite-bearing inclusions, 54(1): 3219
Murchison, organic matter, 54(10): 2859; 54(11): 3159
Orgueil, kerogen, 54(5): 1453
pallacites, redox equilibria, 54(6): 1803
Salta, olivine, 54(6): 1807
Semarkona, chondrules, 54(6): 1785
Springwater, olivine, 54(6): 1807
trace elements, Antarctic and non-Antarctic, 54(11): 3185
ureilites, 54(5): 1475; 54(6): 1775
Vigarano, dark inclusions, 54(3): 819; 54(7): 2121
Yamato chondrites, 54(12): 3509
Yamato 74130, carbonaceous vein, 54(5): 1475
Methane
clathrate hydrates, N_2-CH_4-H_2O, H_2S-CH_4-H_2O, 54(3): 631
phase diagram, CO_2-CH_4, 54(3): 621
production rate, marine Basin, 54(2): 403
Red Sea, West Sheba Ridge, 54(1): 111
Methylhopanes
petroleum, 54(1): 247
Michigan, USA
fluid inclusions, halite, 54(2): 319
Micrometeorites
He, Ne concentrations, Pacific Ocean, 54(1): 173
Migmatite
fluid inclusions, Colorado, 54(3): 895
Minnesota, USA
Bad Vermillion Lake, anorthosite, 54(6): 1639
Filson Creek fen, 54(11): 2933
Mixing
brines, subsurface, Canada, 54(1): 205
magma, Sr and O, isotope compositions, 54(9): 2477
Modeling
cementation, sandstone, 54(6): 1609
concretion, growth of, 54(12): 3391
cosmogenic nuclide production, chondrites, 54(9): 2521
diagenesis, C, in corals, 54(9): 2439
diffusion, olivine corona, 54(9): 2389
fluid inclusions, halite, 54(7): 2059
ion exchange, marine sediment, 54(12): 3295
mesosiderite formation, 54(9): 2560
origin, agate, self-organizational, 54(6): 1627
oxygen flux, herbivores, 54(9): 2604
petrogenesis, open-system, 54(1): 87
sediment-water exchange, 54(10): 2636
soil chemistry, 54(9): 2363
two-lattice melt, 54(8): 2293, 2297
water-rock interaction, 54(10): 2657; 54(11): 3123
Mokoia (CV)
phyllosilicates, aqueous alteration, 54(6): 1745
Monazite
leaching, U, Th, 54(7): 1867, 1879, 1889
pegmatite petrogenesis, REE, 54(7): 2141
REE, partition coefficient, 54(7): 2143
U-Pb systematics, shock effect, 54(12): 3427, 3438
Montana
Belt Series, pyrite genesis, 54(1): 197
Ruby Range, 54(3): 683
Moon
chemical compositions, green glasses, Apollo 15, 54(9): 2565
fractional crystallization, high-Ti basalt, Apollo 17, 54(6): 1817
petrogenesis, basalt, Apollo 14, 54(3): 851
REEs, glass, 54(3): 851
REEs, green glasses, Apollo 15, 54(9): 2566
trace elements, basalt glass, 54(3): 852; 54(9): 2567
MORB (mid-ocean ridge basalt)
partition coefficients, noble metals, sulfide-silicate liquid, 54(12): 3379
Murchison, carbonaceous chondrite
amino acids, 54(11): 3159
hydrocarbons, aliphatic, 54(10): 2859
presolar hibonite inclusions, 54(11): 3219
Muscovite
kinetics, transformation from kinetics, 54(11): 2979

N

Namibia
Roter Kamm, impact crater, 54(11): 3247, 3249
Natron, Lake, Tanzania
^{36}Cl age, brine, 54(10): 2827
Neodymium
Bholghati, eucrite clasts, 54(8): 2202
ilmenite, 54(9): 2599
metasomatism, 54(5): 1337
shale, 54(6): 1687
Neodymium, isotope composition
Bholghati, eucrite clasts, 54(8): 2202
granite, Georgetown, Australia, 54(1): 190
granulite, xenoliths, Arizona, 54(12): 3414
ilmenite, 54(9): 2599
iron formation, carbonate, Isua, Greenland, 54(4): 1150
metasomatism, 54(5): 1337
seawater, Tethys Sea, 54(11): 3139
sediment, South China Sea, 54(9): 2475
shale, Archean, 54(6): 1687
shocked rocks, Haughton impact, Devon Island, Canada, 54(12): 3439
turbidites, 54(7): 2015
ultramafic nodules, basalt, 54(12): 3449
volcanic rocks, Luzon arc, 54(9): 2473
Neon
Bholghati, howardite, 54(8): 2185
chondrites, shocked, 54(12): 3515
cosmogenic, CM meteorites, 54(7): 2133
cosmogenic, ureilites, 54(6): 1777
groundwater, Ontario, 54(4): 1002
Kapoeta, 54(8): 2186
Knyahinya, 54(9): 2514
magnetic particles, sediment, Pacific Ocean, 54(1): 173
ordinary chondrites, 54(10): 2870
New Mexico, USA
Yemez Mountains, sanidine, 54(10): 2697
New York, USA
Long Island Sound, 54(10): 2759
New Zealand
Taupo Volcanic Zone, 54(4): 1009
Nickel
kamacite, ordinary chondrites, 54(5): 1219

partitioning, olivine-silicate melt, 54(5): 1255
Nitrate
reduction kinetics, 54(3): 903
Nitrogen
clathrate hydrates, CO_2-N_2-H_2O, N_2-CH_4-H_2O, 54(3): 631
phase diagram, CO_2-N_2, 54(3): 621
Nitrogen, isotope composition
fecal pellets, marine zooplankton, 54(1): 155
Noble gases
Ar, partitioning, silicate minerals, 54(2): 299
Bholghati, howardite, 54(8): 2183
degassing, Earth, 54(1): 139
geothermal water, Yellowstone National Park, 54(11): 3105
groundwater, Ontario, 54(4): 1002
Kapoeta, howardite, 54(8): 2183
Knyahinya, chondrites, 54(9): 2514
ordinary chondrites, 54(10): 2869
North Carolina
^{7}Be, coastal sediment, 54(1): 237
Cape Lookout Bight, amino acids, 54(11): 3033
North Sea
oil fields, hydrocarbon migration, 54(3): 705
Norway
Sogndal, weathering study, 54(3): 769
Nuclear Magnetic Resonance (NMR)
cation adsorption, hectorite, 54(6): 1655
organic matter, estuarine sediment, 54(7): 2003
organic P compounds, marine sediment, 54(9): 2617
Nucleation
water-rock interaction model, 54(10): 2657

O

Oceans
history, O isotopic composition, 54(4): 1175, 1181
O, isotope composition, effect of circulation, 54(5): 1501
Sr, isotope composition, Tertiary, 54(5): 1343
Oklahoma, USA
dolomite, diagenetic history, 54(7): 1979
Olivine
Ca, peridotites, geothermobarometer, 54(9): 2375
chemical composition, chondrules, carbonaceous chondrites, 54(9): 2487
chemical composition, chondrules, Semarkona, 54(6): 1788, 1792
chondrites, ordinary, 54(5), 1217
chondrules, 54(12): 3475, 3525
diffusion, corona, open-system, 54(9): 2389
Ni, partitioning, silicate melt, 54(5): 1255
organic compounds, crack surfaces, 54(2): 477
Raman spectra, shocked, meteorites, 54(9): 2507
REE, ALHA 77005, 54(9): 2539
Ontario, Canada
brine, Sr isotope composition, 54(1): 205
Dorset, Plastic Lake, 54(10): 2817
groundwater, geochemistry, 54(4): 993
Opal
kinetics, phase transitions, 54(6): 1563
Ophiolite
hydrothermal brines, Troodos, Cyprus, 54(3): 653
serpentinization, isotopic study, Taiwan, 54(5): 1417
Ore deposits
Ag-Rb-Zn, Keno Hill, Yukon Territory, Canada, 54(4): 1045
Au, quartz veins, Archean, 54(3): 545
Porgera gold deposit, Papua New Guinea, 54(5): 1397
Rodeo de los Molles, Argentina, 54(3): 663
Rua Cove Mine, Alaska, 54(7): 2075
Strange Lake, Quebec, 54(9): 2403
Organic compounds
acyclic isoprenoid aldehydes, 54(5): 1307
alkenone (C_37), sediment, coastal shelf, Peru, 54(6): 1671
amines, aliphatic, sediment, 54(10): 2759
amino acids, coastal sediment, 54(11): 3033
amino acids, hydrothermal fluids, 54(4): 1185
Au, complexation, 54(6): 1575
bisnorlanostane derivatives, 54(11): 3253
cadinanes, dammar resins, Brunei, 54(11): 3021
carbohydrates, peat, mangrove, 54(9): 2463
cutin acids, 54(11): 3065, 3073, 3083
cycloalkanes, petroleum, 54(1): 23
effect, kinetics, phase transformation, silica, 54(6): 1563
fatty acids, CuO oxidation products, cutin, 54(11): 3065, 3073
humic substances, molecular weight, 54(1): 131
hydrocarbons, fluid inclusions, 54(3): 509
methylhopanes, sediment, 54(1): 247
monosaccharides, 54(9): 2463
olivine, crack surfaces, 54(2): 477
partial molal properties, 54(4): 915
phenols, 54(7): 1991
phytol, abiotic degradation, 54(5): 1307
proteins, foraminifera, 54(8): 2285
sterane, 54(9): 2451
sugars, neutral, 54(7): 1991
sulfur compounds, diagenesis, 54(11): 3053
Organic matter
mangrove leaves, tropical estuary, 54(7): 1991, 2003
Peru, coastal shelf, 54(6): 1671
Pigmy Basin, Gulf of Mexico, 54(4): 1117
U fixation, 54(3): 809
Orgueil, carbonaceous chondrite
kerogen, H and O, isotope composition, 54(5): 1453
Orthoclase
Ar, diffusion, 54(11): 3147
Osmium
meteorites, iron, 54(3): 875
Ostwald ripening
water-rock interaction model, 54(10): 2657
Oxygen
diffusion, alkali basalt, 54(11): 2953
diffusion, Fe-rich basalt melt, 54(11): 2947
Oxygen, isotope composition
analcime-water, 54(5): 1359
bauxite, 54(5): 1483, 1485
brine, Searles Lake, California, 54(7): 2066
brine, subsurface, Canada, 54(1): 19
calcite, Keno Hill, Yukon Territory, Canada, 54(4): 1053
carbonate rocks, Archean, 54(10): 2772
cellulose, 54(6): 1843, 1845
chert, 54(4): 1175, 1181; 54(12): 3468
coral, deep-sea, 54(5): 1498
dolomite, Oklahoma, 54(7): 1979
goethite-hematite, 54(1): 229
groundwater, Ontario, 54(4): 999
kerogen, Orgueil, 54(5): 1453
laser method, silicates and carbonates, 54(5): 1353
leaf water, 54(2): 418
magnetite, 54(12): 3468
oceans, Phanerozoic, effect of circulation, 54(5): 1501
phosphate, 54(4): 1175, 1181
phosphate, deer bones, 54(6): 1723
phosphate, kangaroo bones, 54(9): 2603
quartz, Keno Hill, Yukon Territory, 54(4): 1050
serpentinization, ophiolite, Taiwan, 54(5): 1417
siderite, Keno Hill, Yukon Territory, 54(4): 1051
volcanic rocks, Luzon arc, 54(9): 2473
water, Yellowstone National Park, 54(11): 3109
zeolites, 54(5): 1369

P

Pacific Ocean (see also MANOP and PACFLUX)
diagenesis, sediment, nutrient release, 54(11): 3001
ferromanganese crusts, dating, 54(6): 1709
REEs, pelagic sediments, 54(4): 1093
smokers, black, chemistry, 54(7): 1911
PACFLUX
site SC, dissolution, calcium carbonate, 54(11): 3013
Palagonite
alteration, basalt glass, 54(10): 2679
REE, 54(10): 2689
trace elements, 54(10): 2689
Palladium
adsorption and reduction, sulfide surfaces, 54(1): 117
concentration, meteorites, 54(6): 1731
distribution coefficient, sulfide-silicate melt, 54(8): 2341
isotope composition, Allende, 54(12): 3525
^{107}Pd, presence, protoplanets, 54(6): 1729
Pallasites
redox equilibria, 54(6): 1803
Pantellerite
trace elements, partitioning, 54(8): 2257
Papua New Guinea
Porgera gold deposit, 54(5): 1397
Sepik River, 54(4): 1019
Parent bodies, meteorite
eucrites, 54(6): 1803
mesosiderites, disruption, 54(9): 2549

Particle tracks, see Tracks, nuclear
Particulate matter
  Cariaco trench, hydrocarbons, 54(5): 1325
Partition coefficient
  alkali metals, alkaline earths, aqueous complexes, 54(8): 2237
  Ba, olivine, orthopyroxene, clinopyroxene, plagioclase, 54(9): 2571
  Co, olivine, orthopyroxene, 54(9): 2571
  Ni, olivine-silicate melt, 54(5): 1257
  noble metals, sulfide-silicate melt, 54(12): 3379
  PGEs, sulfide-silcate melt, 54(9): 2341
  REEs, calcic plagioclase, 54(6): 1639
  REEs, monazite, 54(7): 2143
  REEs, plagioclase, 54(9): 2543
  REEs, pyroxene, 54(9): 2543
  REEs, whitlockite, 54(9): 2543
  REEs, zircon, 54(7): 2143
  Ru, Rh, Pd, spinel-silicate melt, 54(3): 869
  trace elements, melilite, 54(6): 1755
  trace elements, pantellerite, trachyte, 54(8): 2272
  trace elements, plagioclase, 54(6): 1647
Partitioning
  Ar, silicate minerals, basalt, 54(2): 299
  Ni, olivine-silicate melt, 54(5): 1255
  PGEs, sulfide-silicate melt, 54(8): 2341
  REEs, two-lattice melt model, 54(8): 2293, 2297
  Ru, Rh, Pd, spinel-silicate melt, 54(3): 869
  trace elements, melilite-silicate melt, 54(6): 1755
Peat
  carbohydrates, 54(9): 2463
  Cu, Fe, Mn, and Co profiles, 54(11): 2933
  diagenesis, mobility Pb and ^{210}Pb, 54(12): 3329
Pegmatite
  monazite, effect on REE abundance, 54(7): 2141
Peridotite
  metasomatism, xenoliths, Germany, 54(1): 71
  S, isotope composition, spinel lherzolite, 54(10): 2835
  trace elements, 54(1): 84
  xenolith, kimberlite, South Africa, 54(2): 329
Peru
  sediment, coastal shelf, 54(6): 1671
Petrogenesis
  basalt, Disko Island, Greenland, 54(1): 57
  basalt, lunar, Apollo 14, 54(3): 851
  chemical variation diagrams, 54(9): 2419
  granitic rocks, Georgetown inlier, Queensland, Australia, 54(1): 183
  granulites, Geronimo volcanic field, Arizona, 54(12): 3401
  mesosiderites, 54(4): 1165
  open-system, computer model, 54(1): 87
  pegmatite, monazite crystallization, 54(7): 2141
  REEs, application to, 54(9): 2353
  volcanic rocks, Luzon Arc, 54(9): 2473
  volcanic rocks, Sr isotopes, Solomon Islands, 54(2): 441
  volcanic rocks, U-series radionuclides, 54(5): 1427
Petroleum
  cadinanes, source of, southeast Asia, 54(11): 3021
  cycloalkanes, origin, 54(1): 23
  light hydrocarbons, origin, 54(5): 1315
  methylhopanes, identification, 54(1): 247
  North Sea, 54(3): 705
  origin, hydrocarbon diffusion, 54(10): 2775, 2781, 2793
pH measurements
  brine, new approach, 54(5): 1519
Phase diagrams
  $CaCl_2$-NaCl-H_2O, 54(3): 611
  CO_2, 54(3): 897
  CO_2-CH_4 system, 54(3): 621
  CO_2-N_2 system, 54(3): 621
  Na-K-Ca-Mg-Cl-SO_4-H_2O system, 54(3): 583–589
Phenols
  diagenesis, mangrove leaves, 54(7): 1991
Philippines
  Luzon Arc, volcanic rocks, 54(9): 2473
Phosphate
  O, isotope composition, 54(4): 1175, 1181; 54(6): 1723; 54(9): 2603
Phosphorus
  burial, organic P, marine sediment, 54(2): 373
  geochemistry, Sepik River, Papua New Guinea, 54(4): 1019
  kinetics, precipitation, calcite and aragonite, 54(3): 797
  organic compounds, marine sediment, 54(9): 2617
Physical chemistry
  C-O-H system, high P, T, 54(2): 355; 54(3): 535
  $CaCl_2$-NaCl-H_2O system, 54(3): 611
  CO_2-CH_4, CO_2-N_2, CO_2, 54(3): 621, 897
  dissolution, solid solutions, 54(2): 267
  melting behavior, crystals, fluid inclusions, 54(3): 591
  Na-K-Ca-Mg-Cl-SO_4-H_2O system, 54(3): 575
  partial molal properties, organic species, 54(4): 915
  sight occupation distribution function, 54(6): 1535
Pitzer equations
  brines, 54(12): 3315
  Na-Ca-Cl-SO_4-H_2O system, 200°C, 1 kbar, 54(12): 3265
Plagioclase
  dissolution, surface processes, 54(8): 2247
  distribution coefficients, REE, 54(6): 1639
Planetesimals
  Xe, 54(9): 2577
Plankton
  N, isotope composition, fecal pellets, 54(1): 155
Plant
  bisnorlanostane derivatives, plant fossils, 54(11): 3253
  dendroclimatology, isotopic, 54(6): 1843, 1845
  diagenesis, mangrove leaves, 54(7): 1991
  leaf water, isotopic composition, 54(2): 413
  peat, mangrove, 54(9): 2463
Plants (see also Peat)
  conifer needles, diagenesis, 54(11): 3083
  mangrove leaves, diagenesis, 54(7): 1991
  reaction products, cutin-derived, 54(11): 3073
  tree leaves, oxidation products, 54(11): 3065
Platinum
  distribution coefficient, sulfide-silicate melt, 54(8): 2341
Plutonium
  chondrites, ordinary, 54(10): 2847
  coral, deep-sea, 54(5): 1495
  interstitial water, Irish Sea, 54(1): 29
Porewater
  nutrient flux, diagenesis, marine sediment, 54(11): 3001
Potassium
  ion exchange, rhyolitic glass, 54(11): 2923
  K-Ar dating, Porgera gold deposit, Papua New Guinea, 54(5): 1397
Pressure solution
  model, 54(6): 1609
Protoplanet
  ^{107}Pd, presence, 54(6): 1729
Pyrite
  genesis, Newland Formation, Belt Series, Montana, 54(1): 197
  oxidation, kinetics, 54(2): 395
  pyritization, comparison of methods, 54(9): 2621
Pyrolysis
  kerogen, sterane release, 54(9): 2451
Pyroxene
  chemical composition, chondrules, carbonaceous chondrites, 54(9): 2487
  chemical composition, chondrules, Semarkona, 54(6): 1793
  chondrules, 54(12): 3475
  REE, ALHA 77005, shergottite, 54(9): 2535

Q

Quadrupole mass spectrometer
  fluid inclusions, 54(3): 553
  micrometeorites, 54(1): 173
Quartz
  dissolution kinetics, basic solutions, 54(11): 2911
  dissolution kinetics, hydrothermal, 54(4): 955
  dissolution rate, dislocation density, 54(2): 283
  fluid inclusion, analysis, SIMS, 54(3): 545
  isotope composition, O, Keno Hill, Yukon Territory, Canada, 54(4): 1050
  stability, Mg chloride complexes, 54(12): 3283
Quebec, Canada
  Abitibi, 54(4): 1061
  Strange Lake, Zr, Y, REE deposit, 54(9): 2403

R

Radiotracer
  ^{14}C, 54(10): 2759
  ^{59}Fe, 54(10): 2635
  ^{35}S, 54(10): 2731
Radium
  coral, deep-sea, 54(5): 1495
  Ganga-Brahmaputra rivers, 54(5): 1387
Radon
  recoil-emanation theory, minerals, 54(2): 425

Raman spectroscopy
calibration, laser microprobe, 54(3): 535
fluid inclusion, 54(3): 519, 559, 895
glasses, diopside-albite, 54(4): 1037
Mg acetate, 54(4): 947
olivine, shocked, meteorites, 54(9): 2507
Rare Earth Elements (REEs)
algae, uptake, seawater, 54(6): 1587
ALHA 77005, minerals, 54(9): 2535
alkalic rocks, pantellerites, trachytes, 54(8): 2259
angrites, achondrites, 54(11): 3210
aubrites, 54(12): 3553
basalt, Moon, Apollo 14, 54(3): 852
basalt, Moon, Apollo 16, 54(6): 1853
basalt, Moon, Apollo 17, 54(6): 1822
basalt, unaltered, British Columbia, 54(10): 2688
Bholghati, howardite, 54(8): 2169
Darwin glass, 54(5): 1466
distribution coefficients, calcic plagioclase, 54(6): 1639
ferromanganese crust, 54(6): 1709
geochemistry, hydrosphere, 54(4): 971
geochemistry, petrogenesis, 54(9): 2353
granite, Poimena, Tasmania, 54(8): 2320
granite, tourmaline-bearing, 54(7): 2142
granulite, xenoliths, 54(12): 3400
hibonite-bearing inclusions, Murchison, 54(11): 3224
iron formation, Isua, Greenland, 54(4): 1147
iron formation, Precambrian, 54(11): 2965
marine sediment, Pacific Ocean, 54(4): 1093
mesosiderites, 54(4): 1168
monazite, petrogenesis, pegmatite, 54(7): 2141
ordinary chondrites, 54(10): 2852
ore deposit, Rodeo de los Molles, Argentina, 54(3): 663
partition coefficients, sanidine, 54(10): 2697
partitioning, model, two-lattice melt, 54(8): 2293, 2297
peridotite, Germany, 54(1): 76
peridotite, South Africa, 54(2): 333
plagioclase, 54(6): 1642
seawater, Indian Ocean, 54(7): 1929
seawater, scavenging, 54(10): 2645
sedimentary rocks, Abitibi, Canada, 54(4): 1065
sedimentary rocks, South Africa, 54(2): 347
soil, laterite, Ce anomaly, 54(3): 781
Strange Lake deposit, Quebec, 54(9): 2403
turbidites, deep-sea, 54(7): 2019
zircon, 54(6): 1600
Reaction paths
solubility, solid solution, 54(2): 267
Red Sea
^{3}He, methane, 54(1): 111
Reduction
redox potential, cations, diopside melt, 54(12): 3353
Rhodochrosite
surface charge, 54(8): 2329
Rhyolite
Cerro Toledo Rhyolite, New Mexico, 54(10): 2697
ion exchange, Na and K, 54(11): 2923
Rivers
Brahmaputra, U-series nuclides, 54(5): 1387
Ganga, U-series nuclides, 54(5): 1387
REEs, 54(4): 971
Sepik River, Papua New Guinea, P, geochemistry, 54(4): 1019
Rubidium
Bholghati, eucrite clasts, 54(8): 2199
ilmenite, 54(9): 2599

S

Salta (pallasite)
olivine, chemical composition, 54(6): 1807
Samarium
Bholghati, eucrite clasts, 54(8): 2202
metasomatism, 54(5): 1337
shale, Archean, 54(6): 1687
Sm-Nd method of dating
Bholghati, eucrite clasts, 54(8): 2202
iron formation, Isua, Greenland, 54(4): 1147
shale, Archean, 54(6): 1687
Sandstone
concretion, growth, 54(12): 3391
pressure solution, cementation, theory, 54(6): 1609
Sanidine
partition coefficients, 54(10): 2697
Saponite
Kaba, 54(7): 2115
Mokoia, 54(6): 1747
Saskatchewan, Canada
Lea Park Formation, 54(10): 2799
Scanning tunneling microscope (STM)
sulfide surfaces, 54(5): 1511
Scotland
Lewisian complex, U-Th-Pb systematics, 54(6): 1835, 1839
Seawater
adsorption, Cu, chitin, 54(3): 761
algae, uptake, REEs, 54(6): 1587
complexation, Zn, 54(3): 753
evolution, Precambrian, REEs, 54(11): 2965
freezing, brine formation, 54(1): 13
^{3}He, methane, Gulf of Aden, 54(1): 111
history, Late Silurian, 54(2): 319
kinetics, precipitation, clacite and aragonite, 54(3): 797
Nd, isotope composition, Tethys Sea, 54(11): 3139
REE concentrations, 54(4): 971; 54(7): 1929
REE scavenging, 54(10): 2645
Si, Indian Ocean, 54(7): 1940
Secondary ion mass spectrometry (SIMS)
fluid inclusions, 54(3): 545
glass, komatiitic, Apollo 16, 54(6): 1851
plagioclase dissolution, 54(8): 2247
Sediment, deep-sea
dissolution rate, calcium carbonate, 54(11): 3013
turbidites, geochemistry, 54(7): 2015
Sediment, estuarine
amino acids, cycling, 54(11): 3033
diagenesis, conifer needles, 54(11): 3083
diagenesis, mangrove leaves, 54(7): 1991, 2003
S, oxidation and reduction, 54(10): 2731
Sediment, lacustrine
As, adsorption on Fe oxyhydroxide, 54(1): 103
^{137}Cs, Arctic, 54(5): 1443
Fe, removal rate, 54(10): 2635
^{210}Pb, Arctic, 54(5): 1443
Sediment, marine
burial, organic P and organic C, 54(2): 373
degree of pyritization, 54(9): 2621
diagenesis, release of nutrients, 54(11): 3001
He, magnetic particles, Pacific Ocean, 54(1): 165
ion exchange, 54(12): 3295
methane production, marine basin, 54(2): 403
Mg, adsorption, 54(12): 3295
Ne, magnetic particles, Pacific Ocean, 54(1): 165
organic P compounds, 54(9): 2617
organic S compounds, 54(11): 3053
Pb, isotope composition, 54(1): 37
Pu, Am, Irish Sea, 54(1): 29
REEs, Pacific Ocean, 54(4): 1093
Sr, isotope composition, South China Sea, 54(9): 2475
Sediment, metal-rich
chemical composition, plume particles, East Pacific Rise, 54(7): 1919
Sedimentary rocks
carbonate rocks, Archean, 54(10): 2717
geochemistry, turbidites, 54(7): 2015
geochemistry and mineralogy, South Africa, 54(2): 343
geochemistry and provenance, Abitibi, Canada, 54(4): 1061
water-rock interaction, dolomite, 54(11): 3123
Selenium
adsorption, on Fe and Mn oxyhydroxides, 54(3): 739
adsorption, selenite, on calcite, 54(8): 2223
Semarkona (LL3.0)
chondrules, 54(6): 1785
Serpentine
Lancé, matrix, 54(4): 1155
Mokoia, 54(6): 1785
Serpentinization
isotopic study, H and O, 54(5): 1417
Shale
C, isotope composition, 54(10): 2799
Fe, leachable, 54(9): 2622
Nd, isotope composition, 54(6): 1687
S, isotope composition, 54(10): 2799
Sharps (H3)
C-rich aggregates, 54(3): 833
Shergottite
ALHA 77005, REEs, 54(9): 2535
Shock metamorphism
olivine, Raman spectra, meteorites, 54(9): 2507
Shoshone Geyser Basin, Wyoming
He, isotope composition, 54(11): 3103
Siderite
isotopic composition, O and C, Keno Hill, Yukon Territory, Canada, 54(4): 1051
surface charge, 54(8): 2329
Silica
agate, origin, self-organizational, 54(9): 1609

dissolution, mechanism, 54(12): 3369
kinetics, phase transition, 54(6): 1563
Silicon
seawater, Indian Ocean, 54(7): 1940
Silver
isotope composition, Allende, 54(12): 3525
isotope composition, concentration, meteorites, 54(6): 1729
SIMS, see Secondary ion mass spectrometry
Smokers (black)
Cl^-, hydrothermal fluid, 54(8): 2235
geochemistry, East Pacific Rise, 54(7): 1911, 1913, 1919
Sodium
ion exchange, rhyolitic glass, 54(11): 2923
Na-Ca-Cl-SO_4-H_2O system, 54(12): 3265
Na-K-Ca-Mg-Cl-SO_4-H_2O system, 54(3): 575
NaCl-$CaCl_2$-H_2O system, 54(3): 603
Soil
Ce anomaly, laterite, profiles, 54(3): 781
model, soil solution, acidity, 54(9): 2363
sorption, sulfate, isotope fractionation, S and O, 54(10): 2817
Solar nebula
chondrule formation, 54(12): 3475
dark inclusions, carbonaceous chondrites, 54(3): 819
Fremdlinge, Allende, 54(12): 3491
kerogen, isotope composition, Orgueil, 54(5): 1453
nebular component, carbonaceous chondrite, 54(9): 2485
Solomon Islands, Pacific Ocean
Woodlark Basin, volcanism, 54(2): 441
Solubility
minerals, Na-K-Ca-Mg-Cl-SO_4-H_2O system, 54(3): 575
solid solutions, 54(2): 267
South Africa
Barberton greenstone belt, komatiites, 54(11): 3095
Bushveld Complex, fluid inclusions, 54(3): 611
Jagersfontein kimberlite, 54(2): 329
Transvaal Supergroup, 54(2): 343
Ventersdorp Supergroup, 54(2): 343
South Dakota, USA
Black Hills, 54(3): 683
Spain
Mesa Roldan area, 54(3), 699
Sphalerite
solubility, sulfide solutions, 24 to 240°C, 54(3): 715
Sphene
U-Pb dating, shock effects, 54(12): 3427
Spinel
Ar, solubility 54(2): 299
partitioning, Ru, Rh, Pd, silicate melt, 54(3): 869
partitioning, trace elements, 54(6): 1757
Springwater (pallasite)
olivine, chemical composition, 54(6): 1807
phosphate, phosphide, chemical composition, 54(6): 1807
Steranes
release, pyrolysis, kerogen, 54(9): 2451
Strange Lake, Quebec
Zr, Y, REE deposit, origin, 54(9): 2403
Strontium
Bholghati, eucrite clasts, 54(8): 2199
distribution coefficients, olivine, orthopyroxene, clinopyroxene, 54(9): 2571
dolomite, 54(7): 1981
ilmenite, 54(9): 2599
limestone, 54(7): 1981
Strontium, isotope composition
anhydrite, Salina Group, Michigan, 54(2): 323
Bholghati, eucrite clasts, 54(8): 2199
brine, Canadian Shield, 54(1): 205
carbonate rocks, Archean, 54(10): 2723
chondrites, 54(12): 3510
dolomite, Oklahoma, Cambrian, 54(7): 1979
ferromanganese crust, Pacific Ocean, 54(6): 1709
granulite, xenoliths, Arizona, 54(12): 3414
ilmenite, 54(9): 2599
melt rock, Lake St. Martin, Manitoba, 54(7): 2107
phosphate, marine, 54(5): 1343
seawater, 54(5): 1343
sediment, South China Sea, 54(9): 2475
shocked rocks, Haughton impact, Devon Island, Canada, 54(12): 3440
turbidites, 54(7): 2015
ultramafic nodules, 54(12): 3449
volcanic rocks, Luzon Arc, 54(9): 2473
volcanic rocks, Woodlark Basin, Solomon Islands, 54(2): 441
Stylolites
theory, formation, 54(6): 1609
Subduction
Luzon Arc, petrogenesis, 54(9): 2473
volcanic rocks, Sr isotopes, Solomon Islands, 54(2): 441
volcanic rocks, U-series radionuclides, 54(5): 1427
Sugar
diagenesis, mangrove leaves, 54(7): 1991
Sulfide melt
partition coefficients, noble metals, basalt, 54(12): 3379
Sulfur
lherzolite, xenolith, 54(5): 1487
mantle, Earth, 54(5): 1487
organic S compounds, marine sediment, 54(11): 3053
oxidation, reduction, estuarine sediment, 54(10): 2731
Sulfur, isotopic composition
anhydrite, Salina Group, Michigan, 54(2): 323
laser extraction, sulfide minerals, 54(3): 883; 54(7): 2075
lherzolite, Ariege, France, 54(10): 2835
pyrite, Newland Formation, Belt Series, Montana, 54(1): 197, 201, 202
pyrite, oilfields, North Sea, 54(3): 709
shale, Cretaceous, 54(10): 2799
sulfate, groundwater, Ontario, 54(4): 999
Surface effects
adsorption, selenite, on calcite, 54(8): 2223
charge, $MnCO_3$, $FeCO_3$, 54(8): 2329
complexation, Al^{3+}, goethite, 54(5): 1301
complexation, Pb^{2+}, γ-Al_2O_3, 54(7): 1897
dislocation density, dissolution kinetics, quartz, 54(2): 283
dislocations, effect on dissolution, 54(12): 3347
dissolution, albite, hydrothermal conditions, 54(5): 1267
dissolution, apatite, acid media, 54(7): 1969
dissolution, plagioclase, 54(8): 2247
dissolution, quartz, 54(11): 2911
dissolution, silica, 54(12): 3369
hydrated layer, dissolution, minerals and glasses, 54(7): 1941
sulfide surfaces, STM study, 54(5): 1501
Sylvite
fluid inclusions, hydrocarbons, 54(3): 509
Syria, 54(4): 1025

T

Taiwan
Fengtien ophiolite, 54(5): 1417
Talc
stability, Mg chloride complexes, 54(12): 3283
Tanzania
Lake Natron, ^{36}Cl, 54(10): 2827
Tasmania
Poimena granite, origin, 54(8): 2305, 2313
Tektites
bediasite, source material, 54(2): 469
Tellurium
isotope composition, Allende, 54(12): 3525
Tethys Sea
Nd, isotope composition, 54(11): 3139
Thermodynamics
activity coefficients, brine, 54(12): 3315
activity coefficients, brine, 200°C, 1 kbar, 54(12): 3265
As, speciation, dilute solutions, 54(4): 1009
chemical variation diagrams, 54(9): 2419
complexation, Au, organic ligands, 54(6): 1575
complexation, metals, site occupation distribution function (SODF), 54(6): 1535
complexation, supercritical water, 54(6): 1555
complexing, triple-ion anions, 54(3): 727
dislocations, selective dissolution, 54(12): 3347
dissolution, quartz, 54(2): 267
electrochemistry, cations, diopside melt, 54(12): 3353
gold, pe-pH diagrams, ion speciation, 54(1): 9, 10
ion exchange, selenite, on calcite, 54(8): 2223
Mg chloride complexes, stability, 54(12): 3283
partial molal properties, organic species, 54(4): 915
physical chemistry, C-O-H system, high P and T, 54(2): 355
redox equilibria, pallasites, 54(6): 1803
redox potentials, diopside melt, 54(12): 3353
solid solution, aqueous solution systems, 54(2): 267
solubility, complex formation, electrolyte solution, 54(3): 727

solubility, Na-K-Ca-Mg-Cl-SO_4 system, model, 54(3): 575
stability constant, ferrous chloride complexes, 54(8): 2207
talc-quartz equilibria, 54(12): 3283
water, elevated P and T, 54(9): 2611
Zn, sulfide complexes, 54(3): 715
Thorium
isotope fractionation, sabkha, Syria, 54(4): 1025
leaching, monazite, 54(7): 1867, 1879, 1889
ordinary chondrites, 54(10): 2852
ore deposit, Rodeo de los Molles, Argentina, 54(3): 663
^{230}Th
Ganga-Brahmaputra rivers, 54(5): 1387
volcanic rocks, subduction zones, 54(5): 1430
Tin
cassiterite deposit, Cornwall, England, 54(3): 673
isotope composition, Allende, 54(12): 3525
Titanite, see Sphene
Titanium, isotope composition
inclusions, Murchison, 54(11): 3228
Trace elements
ALHA 77005, shergottite, 54(9): 2535
angrites, 54(11): 3210
basalt, Moon, Apollo 14, 54(3): 852
basalt, Moon, Apollo 16, 54(6): 1851
basalt, Moon, Apollo 17, 54(6): 1822
basalt, unaltered, British Columbia, 54(10): 2688
Bholghati, howardite, 54(8): 2169, 2178
Canyon Diablo, iron, 54(11): 3177
coral, Galapagos, 54(2): 387
Darwin glass, 54(5): 1466
eucrites, Antarctic and non-Antarctic, 54(11): 3185
fremdlinge, Allende, 54(12): 3491
goethite, effect on unit cell, 54(2): 363
granite, 54(8): 2307, 2316
granulite, xenoliths, Arizona, 54(12): 3408
hibonite-bearing inclusions, Murchison, 54(11): 3224
mesosiderites, 54(4): 1168; 54(11): 3197
pantellerites, 54(8): 2257
partition coefficients, melilite, 54(6): 1755
partition coefficients, sanidine, 54(10): 2697
peridotite, Hessian Depression, Germany, 54(1): 71
peridotite, South Africa, 54(2): 333
plagioclase, 54(6): 1649
plume particles, black smoker, East Pacific Rise, 54(7): 1919
porewater, sediment, diagenesis, 54(5): 1233
sedimentary rocks, Abitibi, Canada, 54(4): 1065
sedimentary rocks, South Africa, 54(2): 347
trachyte, 54(8): 2257
turbidites, 54(7): 2015
volatile/mobile elements, Bholghati, 54(8): 2178
Trachyte
trace elements, partitioning, 54(8): 2257
Tracks, nuclear
Knyahinya, chondrite, 54(9): 2511
Transmission electron microscope
matrix mineralogy, Lancé, 54(4): 1155
phyllosilicates, Mokoia, 54(6): 1746
saponite, Kaba, 54(7): 2115
Tritium
groundwater, Ontario, 54(4): 999
Tungsten
wolframite, Cornwall, England, 54(3): 673
Turbidite
geochemistry, 54(7): 2015
Turkmenia, USSR, 54(4): 1133

U

Ultracentrifugation
molecular weight determination, humic acid, 54(1): 131
United Kingdom
Cornwall, 54(3): 673
Yorkshire, 54(1): 131
Uranium
ilmenite, 54(9): 2597
leaching, monazite, 54(7): 1867, 1879, 1889
ordinary chondrites, 54(10): 2582
uraninite formation, lignite, 54(3): 809
zircon, 54(6): 1600
U-series isotopes and dating
Arctic lakes, 54(5): 1443
coral, deep-sea, 54(5): 1493
Ganga-Brahmaputra rivers, 54(5): 1387
leaching, monazite, 54(7): 1867, 1879, 1889
sabkha deposits, Syria, 54(4): 1025
volcanic rocks, subduction zones, 54(5): 1427
Ureilite
^{26}Al, ^{10}Be, production, 54(6): 1775
Yamato 74130, 54(5): 1475
USSR
Turkmenia, 54(4): 1133
UV absorption spectrophotometry
ferrous chloride complexes, 54(8): 2207

V

Variable temperature magic-angle-spinning nuclear magnetic resonance (VT-MASNMR)
cation adsorption, hectorite, 54(6): 1655
Variation diagrams
theoretical basis, 54(9): 2419
Vigarano (CV3)
dark inclusions, 54(3): 819
refractory inclusions, 54(7): 2121
Vitrinite
sterane release, pyrolysis, 54(9): 2451
Volcanic rocks
Sr, isotope composition, Solomon Islands, 54(2): 441
U-series radionuclides, 54(5): 1427

W

Washington, USA
Princess Louisa Inlet, 54(2): 403
Saanich Inlet, 54(2): 403
Water, isotopic composition
soil-plant-atmosphere, 54(2): 413
Water, thermodynamic properties
molecular dynamics, 54(9): 2611
supercritical, complexation, electrolytes, 54(6): 1555
Water-rock systems
effect, O-diffusion, alkali feldspar, 54(11): 2953
isotopic and chemical changes, carbonate rocks, 54(11): 3123
Weathering
acidity, soil solutions, 54(9): 2363
effect, acid deposition, Norway, 54(3): 769
water-rock interaction model, 54(10): 2657
Whitlockite
REE, ALHA 77005, 54(9): 2539
Wyoming, USA
Yellowstone National Park, B, 54(10): 2811
Yellowstone National Park, He, 54(11): 3103

X

Xenolith
lherzolite, S, 54(5): 1487
granulite, 54(12): 3401
peridotite, Germany, 54(2): 329
peridotite, South Africa, 54(1): 71
Xenon
Bholghati, howardite, 54(8): 2187
Kapoeta, howardite, 54(8): 2189
ordinary chondrites, 54(10): 2849, 2873
planetesimals, porous, 54(9): 2577
X-ray absorption spectroscopy (XAS)
complexation, Pb^{2+}, γ-Al_2O_3, 54(7): 1899
ferric oxides, 54(4): 1083
X-ray diffraction (XRD)
substitution, carbonate, francolite, 54(8): 2326
X-ray photoelectron spectroscopy (XPS)
dissolution, plagioclase, 54(8): 2247
Hg^{2+}, sulfide mineral surfaces, 54(7): 1957
Pd, adsorption, sulfide surfaces, 54(11): 117

Y

Yamato meteorites, Antarctica
shock melted LL-chondrites, 54(12): 3509
Yellowstone National Park, Wyoming
B, isotope composition, 54(10): 2811
He, isotope composition, 54(11): 3103
Yttrium
Strange Lake deposit, Quebec, 54(9): 2403
Yukon Territory, Canada, 54(4): 1045

Z

Zeolite
activity diagram, 54(5): 1293
chemical composition, palagonite, 54(10): 2688

isotope geochemistry, H and O, 54(5): 1369
O, isotope fractionation, analcime-water, 54(5): 1359
Zinc
complexation, inorganic, seawater, 54(3): 753
isotope composition, Allende, 54(12): 3525
sphalerite, solubility, 24 to 240°C, 54(3): 715
sulfide complexes, 54(3): 715
Zircon
chemical composition, 54(6): 1597
granitic rocks, Georgetown region, Queensland, Australia, 54(1): 183
Hf, isotope composition, Archean, 54(6): 1683
REE, partition coefficient, 54(7): 2143
U-Pb systematics, shock effects, 54(12): 3427, 3438
Zirconium
distribution coefficient, olivine, orthopyroxene, 54(9): 2571
Strange Lake deposit, Quebec, 54(9): 2403

AUTHOR INDEX

(BR = Book Review; C = Comment; E = Erratum; L = Letter; R = Reply)

van Aarssen B. G. K., 3021
Abbott G. D., 2451
Abercrombie H. J., 165
Alaux G., 111
Allard P., 1105
Altabet M. A., 155
Altaner S. P., 1655
Altmann R. S., 1535
Anders E., 1133
Anderson D. L., 1859(BR)
Andrew A. S., 1485(R)
Appel P. W. U., 1147
Arculus R. J., 1803
Arden J. W., 455
Armstrong D. E., 2277
Arndt N. T., 3095
Ash R. D., 455
Ashworth J. R., 2389
Ayliffe L. K., 2603(L)
Aylmer D., 1775
Azbel I. Y., 139

Baas M., 2463
Baillif P., 1969
Baker K. L., 2075
Balistrieri L. S., 739
Bancroft G. M., 117, 1957, 2247
Banner J. L., 3123
Bansal B. M., 2195
Bariac T., 413
Barr J. M., 2093
Barres O., 509
Barrett R. A., 2161
Baur H., 2521
Becker C. H., 477(L)
Beckett J. R., 1755
Begemann F., 2869
Bein A., 13
Belastock R. A., 1493(L)
Belviso S., 111
Belzile N., 103
Ben Othman D., 3449
Benner R., 1991, 2003
Benninger L. K., 237
Bentley H. W., 311
Berelson W. M., 3001, 3013
Bernatowicz T. J., 299, 2847
Berndt M. E., 2235, 2337(L)
Berner E., 1198(BR)
Berner R. A., 2617(L), 2889(C)
Bigham J. M., 2743
Bilong P., 781
Bird M. I., 1485(R)
Bird P., 2911
Birdi J. J., 2389
Black L. P., 183, 2313(R)
Bladh K. L., 1860(BR)
Blum A. E., 283
Blum J. D., 875(L)
Boaretto E., 2827
Bodnar R. J., 603, 641
Bogard D. D., 2195, 2549
Bonani G., 2511
Boon J. J., 2463
Bottomley D. J., 993
Bowins R., 1597
Brady P. V., 1555
Braun J-J., 781
Bray C. J., 559
Brearley A. J., 831
Brew K., 2285
Brey G. P., 2375
von Breymann M. T., 3295
Brimblecombe P., 3315
Broadhurst C. L., 299
Broadus J. M., III, 1861(BR)
Brodholt J., 2611(L)
Brown G. E., 1897
Brownlee D. E., 173
von Brunn V., 2717
Buchanan P., 2161
Buck S. G., 2717
Buesseler K. O., 1493(L)
Buffle J., 1535
Burdige D. J., 3033
Burnett D. S., 2847
Burns R. G., 253(BR)
Burruss R. C., 705
Burton E. A., 797
Burton K. W., 2593(L)
Buseck P. R., 1155, 1745, 2113
Busenberg E., 267
Byrne R. H., 753, 1587, 2645

Calas G., 1083
Calaway W. F., 875(L)
Campbell A. R., 673
Canil D., 2947
Cantrell K. J., 1247
Canuel E. A., 237
Capobianco C. J., 869(L)
Capuano R. M., 1283
Carlson C. A., 311
Carlson L., 2743
Casey W. H., 3369
Causse C., 1025
Chao T. T., 739
Charlet L., 2329(L)
Chaussidon M., 2835
Chauvel C., 3095
Chen C-H., 1483(C), 2473, 2473
Chen J. F., 2148(BR)
Chen J. H., 1729
Cheney E. S., 1860(BR)
Chermak J. A., 2979
Chihming Wang Lee 1417
Chin C., 3001
Chisholm-Brause C.J., 1897
Chivas A. R., 1485(R), 2603(L)
Chou I-M., 535
Clayton R. N., 819, 1359, 1369, 2717
Clegg S. L., 3315
Clouse J. A., 2775, 2781, 2793
Collier R., 3295
Colson R. O., 3353
Comans R. N. J., 9999
Combe I., 1307
Combes J. M., 1083
Condie K. C., 343
Cooper L. W., 1845(R)
Copeland P., 1699
Cormie A. B., 1723
Cornett R. J., 2635
Cornichet J., 3095
Cowan C. E., 2223
Cox H. C., 3021
Craig H., 2587(L)
Crane D., 3353
Crerar D. A., 955, 1267
Crocket J. H., 1597, 2341(L)
Cronin J. R., 2859
Crowe D. E., 2075
Crozaz G., 2535, 3553(L)
Cumming J. B., 889(L)
Cutter G. A., 3013

Dampier M. D., 3391
Das N., 319
Davis D. W., 591
De Preter P., 9999
DeNiro M. J., 1845(R)
Defant M. J., 87
Delaney M. L., 387
Delano J. W., 1803
Della Mea G., 1941
Derry L. A., 2965
Deutsch A., 3427, 3435
Devol A. H., 403
Dewers T., 1609
Diamond L. W., 545
Dickinson J.E., Jr., 1037
Dilcher D., 2901(BR)
Doe B. R., 3261(BR)
Donahue D. J., 2895(L)
Dove P. M., 955
Drake M. J., 299, 869(L)
Dran J-C., 1941
Dromgoole E. L., 2991
Druffel E. R. M., 387, 1493(L)
Duce F. A., 256(BR)
Duke E. F., 683, 2141(L)
Durrheim R. J., 2093

Edmond J. M., 1862(BR), 2902(BR)
Edwards T. W. D., 1843(C)
Eggleston C. M., 1267, 1511(L)
Eglinton T. I., 2451
Eisenreich S. J., 3329
Elderfield H., 971, 1929
Elliot D. H., 1527(BR)
Ellison A. J. G., 2297(R)
Elmore D., 311
Emanuele G., 2323(L)
Epstein S., 1181(R)
Eyal Y., 1867, 1879, 1889

Fallick A. E., 883(L)
Farmer G. L., 1709
Farnan I., 1526(BR)
Farrington J. W., 1671
Farver J. R., 2953

Feng R., 1061
Fieni C., 2511
Filella M., 1535
Filipek L. H., 2933
Fink D., 1775
Fischer H., 3139
Fleck R. J., 2148(BR)
Fleet M. E., 2341(L)
Floss C., 3553(L)
Foland K. A., 3147
Ford R. J., 1463
Foreman D., 1525(BR)
Fossing H., 2731
Foster D. A., 1699
Fox L. E., 1019
Franseen E. K., 699
Frape S. K., 205
Fredriksson K., 3249(R)
Freed R. L., 2628(BR)
Freeman J. J., 519
Friedman G. M., 1195(BR)
Fritz P., 205, 2817
Frogner T., 769
Furrer G., 2363
Fyfe W. S., 3259(BR)

Gagnon M., 553
Gagosian R. B., 1117
Galbreath K. C., 683, 1851(L), 2565
Gallahan W. E., 2293(C)
Gao G., 1979
Gariepy C., 1025
Garrison D. H., 2183, 2549
Gascoyne M., 993
Gay A., 1861(BR)
Gerlach T. M., 2051
German C. R., 1929
Gerth J., 363
Ghaleb B., 1025
Gibbs G. V., 3369
Gieskes J. M., 1233
Gill J. B., 1427
Gillham R. W., 395
Giral P. J-P., 1307
Glynn P. D., 267
Goldberg E. D., 254(BR)
Goldstein R. H., 699
Goñi M. A., 3065, 3073, 3083
Gonzalez-Davila M., 761
Gorton M. P., 2697
Gosselin D. C., 2167
Goswami J. N., 2133, 2183
Götzinger M., 3249(R)
Grady M. M., 455
Graf T., 2511, 2521
Grant N. K., 911(BR)
Gratz A. J., 2911
Green W. J., 3559(BR)
Grieve R. A. F., 2093
Grigal D. F., 3329
Grootes P. M., 2627(BR)
Grossman L., 2121, 3491
Grousset F., 37
Grove T. L., 1255
Gruau G., 3095
Gruen D. M., 875(L)
Guha J., 553
Guillet B., 781
Gurney J. J., 329

Hagee B. E., 299, 2847
Halbout J., 1453
Hall D. L., 641
Haller M., 9999
Hamelin B., 37
Hamilton P. J., 1343
Hammond D. E., 3001, 3013
Hanson G. N., 3123
Harmon R. S., 3401
Harrison T. M., 1699
Hart S. R., 2891(R)
Harte B., 329
Hartmann G., 71
Harvey B. R., 29
Haskin L. A., 1, 2353, 3353
Hassanzadeh J., 3197
Hatcher P. G., 2003
ten Haven H. L., 3053
Hawkesworth C. J., 3401
Hayashi K., 715
Hayes J. M., 3461
Hayes K. F., 1897
Heaman L. M., 1597
Hearn E. H., 3103
Hedges J. I., 1991, 2003, 3065, 3073, 3083
Hein J. R., 1709
Heinrich C. A., 2207
Heizler M. T., 1699
Helgeson H. C., 727, 915
Hellmann R., 1267
Hermanson M. H., 1443
Herpers U., 2511
Herut B., 13
Herzog G. F., 1775
Hess P. C., 2147(BR), 2297(R)
Heumann K. G., 2503
Hewins R. H., 3475
Heymann D., 2507
Higgins N. C., 2305(C)
Hillaire-Marcel C., 1025, 2827
Hinman N. W., 1563
Hinton R. W., 2717
Hochella M. F., Jr., 477(L), 1267, 1511(L)
Hoefs J., 2717
Hohenberg C. M., 2133, 2183
Holland H. D., 319, 1859(BR)
Hollos G., 2827
Home A. K., 2451
Hoogendoorn P., 3021
Horita J., 319, 2059
Hosokawa K., 3253(L)
Hsueh-Wen Yeh 1417
Hughes S. S., 1817
Hunt J. M., 2899(BR)
Hutcheon I. D., 165, 875(L), 1755, 3491
Hyland M. M., 117, 1957

Iiyama J. T., 2923
Ildefonse J. P., 1969
Ingall E. D., 373, 2617(L)
Ingram B. L., 1709
Ireland T. R., 3219
Irish D. E., 947

Jackman J. A., 545
Jackson K. J., 1519(L)
Jacobsen S. B., 2965
Jahnke L. L., 247(L)
Jahnke R. A., 1233, 2323(L)
Jakobsson S., 355
Jasper J. P., 1117
Javoy M., 1453
Jean G. E., 1957
Jean-Baptiste P., 111
Jensenius J., 705
Jercinovic M. J., 2678
Johnson C. A., 819
Johnson E. L., 1191(L)
Johnson M. L., 2847
Jones M. G., 205
Jones M. N., 131
Jones R. H., 1785, 2485
Jordan J. L., 2549
Jørgensen B. B., 2731
Jull A. J. T., 2895(L)
Jusserand C., 413

Kamensky I. L., 3115
Kamineni D. C., 993
Karlsson H. R., 1359, 1369
Kasting J. F., 2577
Kastner M., 2323(L)
Katz A., 13
Kaufman A. J., 2827, 3461
Keays R. R., 3379
Keil K., 2678
Keller L. P., 1155, 2113
Kelley D. S., 653
Kelley S. P., 883(L)
Kempton P. D., 3401
Kennedy B. M., 3103
van den Kerkhof A.M., 621, 895(L)
Kerrich R., 1061
Kershaw P. J., 29
Kim K-H., 2645
King L. L., 1493(L)
Kinzler R. J., 1255
Kirkpatrick R. J., 1655
Kitakaze A., 715
Klein C., 3461
Klein J., 1775
Knauss K. G., 1519(L)
Kock-Van Dalen A. C., 3053
Koeberl C., 1463, 3249(R), 3560(BR)
Köhler T. P., 2375
Kohnen M. E. L., 3053
Kolodny Y., 2900(BR)
Kramer J. R., 253(BR)
Krishnaswami S., 1387
Krouse H. R., 165
Krupp R. E., 3239(C)
Kubicki J. D., 2709
Kuivila K. M., 403
Kurz M. D., 441
Kyser T. K., 2799

de Laeter J. R., 3525
Lal D., 2587(L)
Landais P., 809
Lanier A. B., 3537
Lasaga A. C., 283, 2709, 3369
Laul J-C., 1197(BR), 2155, 2167
Leckie J. O., 1897
Lee C., 2759
Lee T., 2473
de Leeuw J. W., 2463, 3021, 3053
Leventhal J., 2621(L)
Lindstrom M. M., 3209
Linn L. J., 387
Lipschutz M. E., 1196(BR), 2177, 3185
Lira R., 663
Liu K-K., 1483(C)
Lofgren G., 3537
Longstaffe F. J., 1045

Lorand J. P., 1487(L), 2835
Loss R. D., 3525
Love K. M., 469(C)
Lovett M. B., 29
Lövgren L., 1301
Lowenstein T. K., 591
Lowman P. D., Jr., 2346(BR)
Lu H-Z., 553
Lundberg L. L., 2535
Luz B., 1723
Lynch J. V. G., 1045

MacDonald I. M., 205
MacPherson G. J., 2121
Mackenzie D. E., 2313(R)
Magaritz M., 2827
Magonthier M-C., 1941
Mahood G. A., 2257
Malcolm S. J., 29
Malhotra R., 477(L)
Manceau A., 1083
Mando P. A., 1941
Mango F. D., 23, 1315
Mao X-Y., 2121
Mariotti A., 413
Marshall D. D., 545
Martens C. S., 237, 3033
Mason T. R., 2717
Masuda A., 1093, 1147
Mathez E. A., 217, 3379
Mayeda T. K., 819
Maynard J. B., 2015
McArthur J. M., 1343
McCaffrey M. A., 1671
McConachy T. F., 1911
McCulloch M. T., 183, 2015
McDonough W. F., 471(C)
McDougall I., 1397
McLennan S. M., 2015
McNutt R. H., 205
McSween H. Y., 1528(BR), 2535
Meike A., 3347
Meisel T., 1463
Menzies M. A., 3449
Merino E., 488(BR), 1627
Mertzman S.A., 2473
Meunier J. D., 809
Michard A., 781
Michard G., 2887(R)
Middleton R., 1775
Mihalopoulos N., 111
Millero F. J., 761
Mills M. S., 699
Mitchell R. H., 475(R), 489(BR)
Mittlefehldt D. W., 1165, 2549, 3209
Moers M. E. C., 2463
Møller N., 575
Monnin C., 3265
Moorbath S., 3401
Moore W. S., 1387
Morris R. M., 2195
Morrison D. A., 1639
Mottl M. J., 1911
Mucci A., 1575
Muehlenbachs K., 2947
Muir I. J., 2247
Mukasa S. B., 256(BR)
Muller J-P., 781
Muncill G. E., 2709
Murad E., 2743
Murae T., 3253(L)
Murali A. V., 889(L)
Murray J. W., 403

Nagao K., 3509
Nakamura N., 3509
Nakamura Y., 1093
Naora M., 3253(L)
Nazarov M. A., 1133
Neal C. R., 1817
Nesbitt B. E., 1045
Nesbitt H. W., 2247
Neubauer J., 2503
Newsom G. H., 254(BR), 1195(BR), 2345(BR), 3559(BR)
Nguyen B. C., 111
Nichols R. H., 2133, 2183
Nicholson R. V., 395
Nielsen R. L., 87, 2293(C)
Nier A. O., 173
Nriagu J. O., 1528(BR)
Nyquist L. E., 2195

O'Neill D., 3001
O'Nions R. K., 2593(L)
Oakes C. S., 603
Oelkers E. H., 727
Okano O., 3509
Olander D. R., 1867, 1879, 1889
Olinger C. T., 2133, 2183
Olivarez A. M., 1849(E)
Olsen S. N., 895(L)
Ortoleva P., 1609
Osborn A. O., 1343
Oskarsson N., 355
Ott U., 2869
Ouyang X., 3175
Owen R. M., 1849(E)
Ozeki T., 947

Paccagnella A., 1941
Pačes T., 2627(BR)
Pagel M., 781, 809
Palme H., 2895(L)
Palmer M. R., 2811
Panter K. S., 673
Papike J. J., 851, 1851(L), 2141(L), 2565
Papp C. S. E., 2933
Parekh P. P., 889(L)
Parks G. A., 1897
Paslick C., 1803
Pasteris J. D., 519, 535, 559, 631
Patchett P. J., 1683
Paul M., 2827
Paul R. L., 2177, 3185
Peach C. L., 3379
Pece R., 1105
Pellas P., 2511
Pellin M. J., 875(L)
Perdue E. M., 1247
Perfit M. R., 441
Perry E. C., Jr., 1175(C)
Petch G. S., 2451
Petit J-C., 1941
Phillips F. M., 311
Phinney W. C., 1639
Pillinger C. T., 455
Pineau F., 217
Pironon J., 509
Pizzarello S., 2859
Plummer L. N., 267
Podosek F. A., 2847
Pollack J. B., 2577
Postma D., 903(L)
Pride D. E., 1526(BR)
Prinz M., 819

Quiro G. B., 2911

Radomsky P. M., 3475
Railsback L. B., 1501(L)
Reardon E. J., 267, 395, 2817
Recca S. I., 1255
Reed M. H., 3241(R)
Reid A. M., 2161
Reid P. M., 131
Reifenhauser W., 2503
Reimold W. U., 2093, 3249(R)
Renault J., 255(BR)
Repeta D. J., 1671
Resch C. T., 2223
Richards J. P., 1397
Righter K., 1803
Rimstidt J. D., 2979
Ripley E. M., 663
Robbins L. L., 2285
Robert F., 1453
Robinson P. T., 653
Roe A. L., 1897
Roedder E., 495, 3247(C)
Rontani J-F., 1307
Rosing M. T., 1337
Rosman K. J. R., 3525
Rubin A. E., 1217, 3197
Rullkötter J., 3053
Russell J. K., 2419

Saccocia P. J., 3283
Sahami A. R., 1343
Salvi S., 2403
Sanjuan B., 2887(R)
Sano Y., 1105
Sansone F. J., 2439
Sarafin R., 2511
Sarin M. M., 1387
Sauerer A., 49
Savin S. M., 2346(BR)
Scarfe C.M., 1037
Schärer U., 3427, 3435
Schelhaas N., 2869
Schenck P. A., 2463
Schieber J., 197
Schiffries C. M., 611
Schindler P. W., 1301
Schlutter D. J., 173
Schmincke H-U., 2891(R)
Schmitt R. A., 1817, 2678
Schoonen M. A. A., 2883(C)
Schroeder P. A., 2617(L)
Schuffert J. D., 2323(L)
Schulte M. D., 3159
Schurr K. T., 3329
Schwarcz H. P., 1723
Schwartzman D. W., 2147(BR)
Schwertmann U., 2743
Sclar C. B., 3560(BR)
Scott E. R. D., 2485
Seitz J. C., 535, 631
Semkow T. M., 425
Semmler J., 947
Serkiz S. M., 1247
Seward T. M., 2207
Seyfried W. E., Jr., 2235, 2337(L), 3283
Sharp Z. D., 1353
Shaw T. J., 1233
Shearer C. K., 851, 1851(L), 2141(L), 2565
Shemesh A., 2433

Shieh Y-N., 1483(C), 2473
Shih C-Y., 2195
Shimizu H., 1147
Shimizu N., 851, 1851(L), 2565
Shiraki R., 2923
Shock E. L., 915, 1185(L), 3159
Sholkovitz E. R., 37, 971
Shotyk W., 2247
Siegel F. R., 487(BR)
Signer P., 2511, 2521
Simon S. B., 851
Simonson J. M., 603
Sinninghe-Damsté J.S 3053
Sjöberg S., 1301
Skippen G. B., 545
Small L. F., 155
Smith B. M., 2891(R)
Smith M. R., 2678
Smith S. V., 2439
Smyth J. R., 2900(BR)
Sollins P., 2363
Somayajulu B. L. K., 1387
Sorensen S., 487(BR)
Spencer R. J., 575, 591
Spivack A. J., 1755, 2337(L)
Spooner E. T. C., 559
Sposito G., 1862(BR)
Spycher N. F., 3241(R)
Stanley C. R., 2419
Stanley J. K., Jr., 753, 1587
Starinsky A., 13
Staudigel H., 2891(R)
Steefel C. I., 1528(BR), 2657
Stevenson R. K., 1683
Stille P., 3139
Stimac J. A., 2257
Stix J., 2697
Stolper E. M., 1755
Stone W. E., 2341(L)
Strait M. M., 3553(L)
van Straten H. A., 2883(C)
Strauss H., 197
Striegl R. G., 2277
Stumm W., 2329(L)
Sturchio N. C., 2811
Sueno S., 851
Suess E., 3295
Sugaki A., 715
Summons R. E., 247(L)
Sun S-S., 2313(R)
Suter M., 2511
Sweet W. C., 2628(BR)
Swindle T. D., 2183
Sylvester P. J., 3491

Taieb M., 2827
Takahashi T., 3253(L)
Takeda H., 1475
Tatsumoto M., 2847
Taylor B. E., 911(BR), 2051
Taylor C., 2621(L)
Taylor L. A., 1817
Taylor S. R., 2015, 2903(BR)
Tedesco D., 1105
Tessier A., 103, 1535
Thirioux L., 1969
Thirlwall M., 1343
Thomas A. V., 559
Thomas M. M., 2775, 2781, 2793
Thompson G., 254(BR)
Tilton G. R., 3449
Tingle T. N., 477(L)
Tipping E., 131
Tolstikhin I. N., 139, 3115
Tomeoka K., 1475, 1745
Touray J. C., 1969
Toyoda K., 1093
Tribble G. W., 2439
Troll G., 49
Truesdell A. H., 3103
Trull T. W., 441
Trusty K. J., 683
Tsuyuki T., 3253(L)
Tzen-Fu Yui 1417

Ugolini F. C., 488(BR)
Ulff-Møller F., 57
Umemoto N., 1147
Upstill-Goddard R., 971
Urban N. R., 3329

Valley J. W., 2075
Vallieres S., 1025
Van Cappellen P., 373, 2657
Van Stempvoort D. R., 2817
Veizer J., 2717
Vetrin V. R., 3115
Vezina A. F., 2635
Vlassopoulos D., 3, 1575, 1849(E)
Vogt S., 1775, 2511

Wakeham S. G., 1325
Wakita H., 1105
Walter L. M., 797, 2991
Walther J. V., 1555
Walton-Day K., 2933
Wampler J. M., 3260(BR)
Wang G. Y., 2451

Wang M-S., 2177
Wang X-C., 2759
Ward B. J., 2121, 3491
Wasserburg G. J., 875(L), 1729, 1755
Wasson J. T., 3175, 3197
Weare J. H., 575
Webster J. G., 1009
Wedepohl K. H., 71
Weisberg M. K., 819
Weiss C. A., Jr., 1655
Weliky K., 1991
Wentworth S. J., 1851(L)
Wersin P., 2329(L)
Westall J. C., 2363
Wetherill G. W., 1197(BR)
Whitehouse M. J., 1839(R)
Whittaker S. G., 2799
Wieler R., 2511
Wiens R., 2587(L)
Wiesmann H., 2195
Wilkinson A. E., 131
Wilkinson M., 3391
Williams R. W., 1427
Williams-Jones A. E., 2403
Wilson T. J., 2899(BR)
Winchester J. W., 2345(BR), 2345(BR)
Winterburn P. A., 329
Wlotzka F., 2895(L)
Wolbach W. S., 1133
Wolery T. J., 1519(L)
Wölfli W., 2511
Wood B., 2611(L)
Wood S. A., 3, 1575, 1849(E)
Wopenka B., 519
Woronow A., 469(C)
Wright I. P., 455
Wronkiewicz D. J., 343

Xu X-M., 3001
Xu Y., 3147

Yapp C. J., 229
Yerkes R. W., 1198(BR)
Yifeng Wang 1627
Young C. E., 875(L)
Yund R. A., 283, 2953
Yurimoto H., 851, 2141(L)

Zachara J. M., 2223
Zahnle K., 2577
Zeller E. J., 255(BR), 3561(BR)
Zheng Y-F., 1835(C)
Zolensky M. E., 2161
Zukin J., 3001